

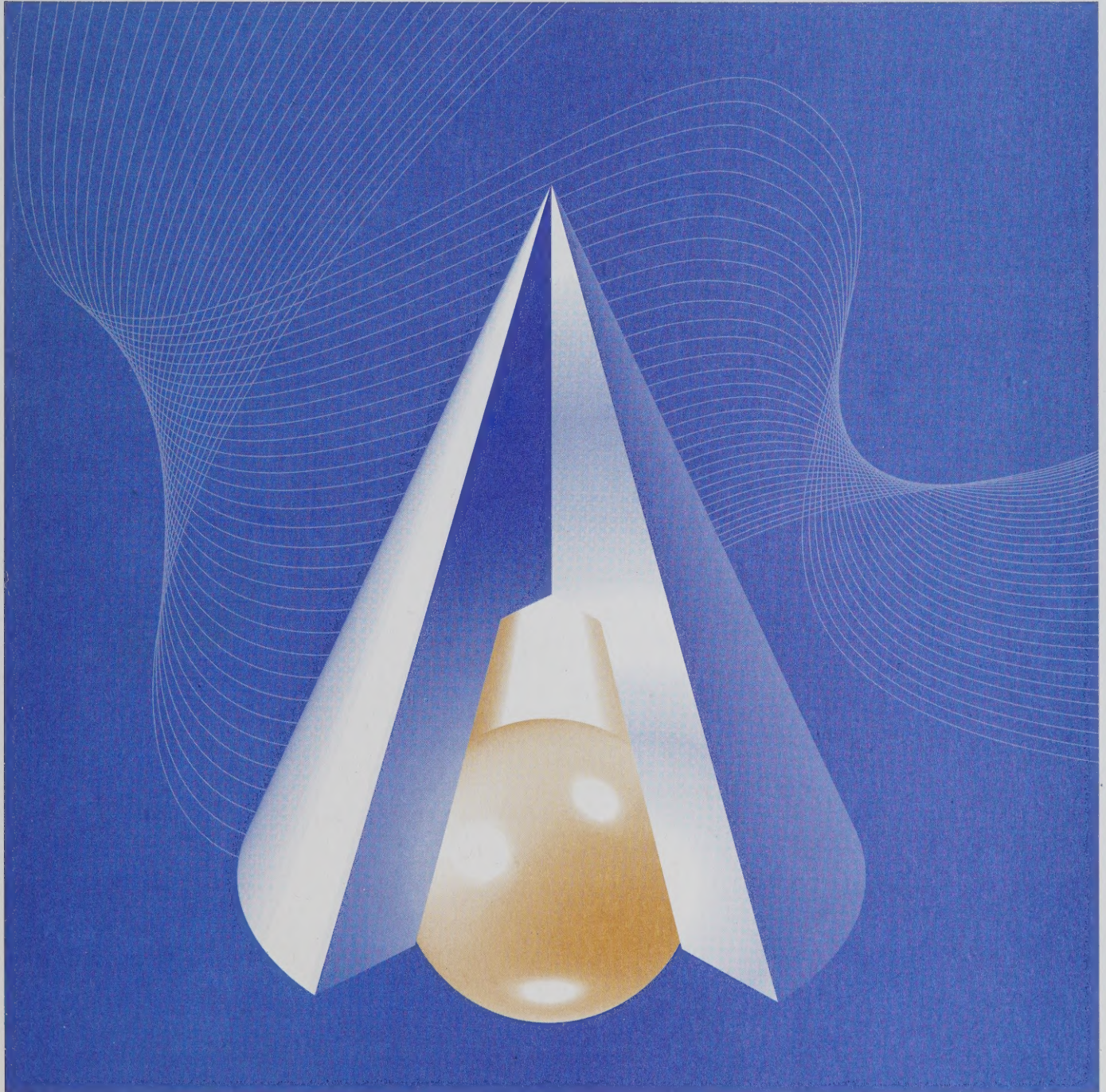
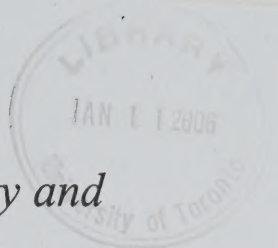
# Research Paper Series

Analytical Studies

*Love and Money: Intergenerational Mobility and  
Marital Matching on Parental Income*

by Jo Blanden

No. 272



Statistics  
Canada

Statistique  
Canada

Canada



## **Analytical Studies Research Paper Series**

The Analytical Studies Research Paper series provides for the circulation, on a pre-publication basis, of research conducted by Branch staff, visiting Fellows and academic associates. The Research Paper Series is intended to stimulate discussion on a variety of topics including labour, business firm dynamics, pensions, agriculture, mortality, language, immigration, statistical computing and simulation. Readers of the series are encouraged to contact the authors with comments, criticisms and suggestions. A list of titles appears at the end of this document.

Papers in the series are distributed to research institutes and specialty libraries. These papers can be downloaded from the Internet at [www.statcan.ca](http://www.statcan.ca)

Publications Review Committee  
Analytical Studies, Statistics Canada  
24th Floor, R.H. Coats Building  
Ottawa, Ontario, K1A 0T6  
(613) 951-1804  
(613) 951-1667

# **Love and Money: Intergenerational Mobility and Marital Matching on Parental Income**

by

**Jo Blanden\***

**11F0019 No. 272**

**ISSN: 1205-9153**

**ISBN: 0-662-42225-2**

Family and Labour Studies  
Statistics Canada

Economics Department  
University of Surrey  
and  
Centre for Economic Performance  
London School of Economics

## **How to obtain more information:**

National inquiries line: 1 800 263-1136

E-Mail inquiries: [infostats@statcan.ca](mailto:infostats@statcan.ca)

The paper is available on Internet: ([www.statcan.ca](http://www.statcan.ca))

**December 2005**

\*This research was undertaken as part of Statistics Canada's PhD Research Stipend Programme. I am grateful to Miles Corak for his help in enabling my visits to Statistics Canada and for his help with the research; Sophie Lefebvre provided very helpful advice on the use of the data. Thanks are also owed to Stephen Machin, Steve Gibbons and Chris Crowe for useful comments on this paper.

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2005

All rights reserved. The content of this publication may be reproduced, in whole or in part, and by any means, without further permission from Statistics Canada, subject to the following conditions: that it is done solely for the purposes of private study, research, criticism, review, newspaper summary, and/or for non-commercial purposes; and that Statistics Canada be fully acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, name of product, catalogue, volume and issue numbers, reference period and page(s). Otherwise, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopy, for any purposes, without the prior written permission of Licensing Services, Marketing Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.

**Cette publication est disponible en français.**

This project is part of the research program of the Family and Labour Studies Division of Statistics Canada. It was completed while the author was a Statistics Canada Research Fellow.

## **Note of appreciation:**

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.





Digitized by the Internet Archive  
in 2024 with funding from  
University of Toronto

<https://archive.org/details/31761118489665>

## Table of contents

1.	Introduction.....	5
2.	Theoretical background and estimation issues .....	8
	Intergenerational mobility and assortative mating.....	8
	Search models and assortative mating .....	10
	Estimation issues.....	12
3.	Data and description of matching procedure .....	15
	Data description .....	15
	Individual intergenerational sample.....	16
	Matching spouses.....	16
	1998 Spouse sample.....	16
	Divorce and separation sample .....	17
	Are the IID samples representative? .....	17
4.	Results on intergenerational mobility .....	19
	Intergenerational mobility for sons and daughters in Canada .....	19
	Intergenerational mobility and assortative mating.....	20
5.	Results on assortative mating.....	22
	Assortative mating by education.....	22
	Assortative mating by earnings, income and family background.....	23
	Variations in assortative mating.....	24
	Divorce and assortative mating.....	26
6.	Conclusion .....	27
	Tables.....	29
	Appendices.....	39
	References.....	40



## **Abstract**

This paper investigates the interactions between intergenerational mobility and marital matching for young couples in Canada. We show how assortative mating contributes to intergenerational household income persistence. The strength of the association between sons-in-law's income and women's parental income means that the intergenerational link between household incomes is stronger than that found for daughters' own incomes alone. This is also the case when viewed from the other side, so that daughters' and their partners' earnings are related to partners' parental income. These results indicate that assortative matching magnifies individual-level intergenerational persistence.

In the second part of the paper we consider assortative mating by parental income. We find that daughter's parental income has an elasticity of almost 0.2 with respect to her partner's parental income. This association is of approximately the same magnitude as the intergenerational link between parents' and children's incomes. We investigate variations in the correlation between the parental incomes across several measured dimensions; cohabiting couples have lower correlations, as do those who form partnerships early, those who live in rural areas and most interestingly, those who later divorce. We interpret this last result as evidence that, on average, couples with parental incomes that are more similar enjoy a more stable match.

**JEL classification:** J12, J62

**Keywords:** Intergenerational mobility, Marriage, Family income



## 1. Introduction

Intergenerational mobility is the extent to which incomes are independent from one generation to the next. The converse of mobility is persistence; strong intergenerational persistence means that an individual's family origins will have a large influence on their later economic success. Many policy makers and commentators are concerned that strong intergenerational persistence indicates a lack of equality of opportunity.

Intergenerational persistence is usually measured as the coefficient in a regression of the adult child's income on their parental income, where the most common measures of income used are son's and father's earnings (see Solon, 1999 for a review). However, we may think that the underlying concept of interest is the extent to which economic welfare is transmitted from one generation to the next. If income is pooled within couples, then the most natural measure of intergenerational persistence is the strength of the relationship between total family incomes between the two generations; consequently the income of the child's partner (where there is one) will play a role.

Once the role of partnership formation for intergenerational persistence is acknowledged, it is clear that how individuals sort themselves into couples will matter for the extent of intergenerational persistence. The economics and sociology literature (discussed further below) indicates that individuals tend to match assortatively with those with similar characteristics to their own. If assortative mating is strong, individuals will marry those with similar levels of income to their parents; this will contribute to intergenerational income persistence.

As noted above, most of the estimates of intergenerational mobility in the literature have been focused on the relationship between sons' earnings and their fathers' earnings or parental income. In general, the intergenerational mobility of daughters has been less studied, due to the complexities introduced by women's labour market participation decisions. Chadwick and Solon (2002) are motivated by the difficulty in measuring women's intergenerational earnings mobility to consider the role played by husbands' earnings in the United States. They find evidence of strong assortative mating as the link between husband's earnings and parental income contributes to strong intergenerational total income persistence for daughters, despite the fact that daughters' own earnings make a minority of family income.

Another related paper is Blanden (2005a): here the relationship between intergenerational mobility and assortative mating is considered for both sons and daughters in two British cohorts, one born in 1958 and the other born in 1970. In both cases, a strong association is found between daughter's partner's earnings and her parental income. The key interest here is on how the relationships change between the cohorts, and an interesting finding is that an increase in intergenerational earnings persistence for sons is coupled with a strong rise in the relationship between son's partner's earnings and his parents' income. It appears, however, that much of this change is generated by the changing selection of women into work rather than through a change in the underlying matching mechanism.



In this paper we use unique data to explore intergenerational mobility and assortative mating in Canada. We measure the relationship between parental income and the earnings of sons, daughters and their partners, as well as the link between parental income and the combined income of children and their partners' in the next generation. Estimates of the intergenerational mobility relationship for sons indicate that Canada is particularly mobile by standard measures (Corak and Heisz, 1999 and Blanden, 2005b); it is therefore of interest to compare the results on assortative mating with those found for the U.S. and the U.K.

The data used here are the Intergenerational Income Data (IID) developed by Statistics Canada. The dataset was established in order to provide evidence on the relationship between the incomes and earnings of parents and children. The derivation of the data from tax records means that the number of observations is large enough so that a majority of the daughters' partners in 1998 are also included in the sample. This enables matching of women with income information from their own parents, their partner, and their partner's parents; a wealth of information not explored in any other dataset.

The nature of the data means that as well as providing the first results for Canada on the relationship between intergenerational mobility and assortative mating, we are also able to explore the link between the parental incomes of couples. This is the other side of the interrelationship between partnership formation and intergenerational mobility. Not only does partnership formation affect intergenerational mobility but parental characteristics also influence how couples match. We interpret the strength of the link between parental incomes as an additional measure of the extent of assortative mating.

At first glance, we may think that assortative mating by parental characteristics is not important in a modern society such as Canada where individuals generally choose their own marriage partner and marry for love. However, sociologist William Goode succinctly illustrates why this will not be the case, as individuals tend to associate with, and therefore marry, others from similar backgrounds.

Since the marriage population in the U.S. (and increasingly as well as in other countries) is gradually segregated into pools with similar social class backgrounds, even a free dating pattern with some encouragement to fall in love does not threaten the stratification system. That is, people fall in love with the 'right' kind of people.<sup>1</sup>

The economic literature also has contributions to make concerning how individuals match into couples. A class of mathematical model called assignment models consider how agents sort themselves into pairs. In general, these tend to indicate that couples will be matched positively on most characteristics, including education and parental income. A fuller discussion of the marital matching literature will follow in Section 2.

---

1. Goode (1982) page 54.



To explore assortative mating explicitly, we begin by examining how individuals match on educational levels. As the IID is based on tax data and contains no information on educational attainment, the Canadian Survey of Labour and Income Dynamics (SLID) is used to explore this question. We find substantial matching on education. The extent of assortative mating by educational levels has been considered for Canada by Magee, Burbidge and Robb (2000). This paper uses 25 years worth of data from the Survey of Consumer Finances to analyse whether couples have become more or less strongly matched on education level over time. The authors find that, on average, the correlation between the education levels of husbands and wives is greater than 0.6. In addition, it appears to have fallen for young couples over the 1990s.

We then move on to estimate the association between the parental incomes of spouses. To our knowledge, the only other research to consider matching on family background is Ermisch and Francesconi (2002). In this paper, the authors regress Hope-Goldthorpe occupational scores of parents (a measure of economic and social status) on those of parents-in-law. They find that the elasticity between the occupational indices of parents and parents-in-laws is around 0.16 while the intergenerational elasticity between parents and children's occupational indices is around 0.2. There is evidence, therefore, that the association between parental status within couples is strong.

If the strength of the link between parents-in-laws' incomes is interpreted as a measure of assortative mating, then we can make a number of predictions about how the extent of assortative matching will vary with the characteristics of couples. We consider the degree to which these predictions are borne out in the data. As we shall see below, the information available about characteristics is limited in the administrative data used here, but nonetheless, the aspects that can be observed confirm expectations. Young people who form unions later appear to be more closely matched on parental income, as do those who are married rather than cohabiting and those brought up in urban compared with rural areas.

In the final section of empirical work, we consider whether the strength of matching on parental income is related to divorce and separation probabilities. We find that weaker matches between parental incomes are associated with early divorce. This analysis has a precedent in Weiss and Willis (1997) who use data on a cohort of American youth who graduated from high school in 1972 to investigate the determinants of divorce. Weiss and Willis find that individuals with similar education levels are less likely to divorce; this result is also true of common ethnicity and religion.

In the next section, we discuss the theoretical background and empirical approach used in this paper. Section 3 describes the construction of the data set in some detail and reviews the evidence on whether the samples used are representative of the full Canadian cohort. In Section 4, results on intergenerational mobility for individuals and couples in Canada are presented, while Section 5 concentrates on presenting the results for assortative mating. Section 6 concludes.



## 2. Theoretical background and estimation issues

### *Intergenerational mobility and assortative mating*

We begin with a simple model of the relationship between assortative mating and intergenerational mobility. This model is taken from Ermisch, Francesconi and Siedler (forthcoming). Essentially, the model combines a very simple representation of marital matching with a simple model of intergenerational mobility to generate a number of predictions about the relationships between the education and income of children and their partners and their parents' incomes.

The starting point of this model is that marital sorting results in a positive correlation between the human capital of husbands and wives.

$$\text{Corr}(H_{wi}, H_{hi}) = \rho \quad (1)$$

Where  $H_{wi}$  and  $H_{hi}$  indicate the human capital of wives and husbands respectively in couple  $i$ .

For both husbands and wives, income is positively related to human capital although the return to human capital may vary across genders as in equations (2) and (3) below.

$$\ln Y_{wi} = \tau_w + \gamma_w H_{wi} + v_{wi} \quad (2)$$

$$\ln Y_{hi} = \tau_h + \gamma_h H_{hi} + v_{hi} \quad (3)$$

In this formulation, the intergenerational relationship is driven by parents' optimising behaviour.<sup>2</sup> The parental utility function includes parental consumption and the child's household income, so that their child's partner's income is also included,  $\pi$  indicates the extent to which parents are altruistic and care about their child's income.<sup>3</sup>

$$U_{wi}^{\text{parents}} = (1 - \pi) \ln C_{wi}^{\text{parents}} + \pi \ln E(Y_{wit} + Y_{hit}) \quad (4)$$

2. This is not essential. Lam and Schoeni (1994) are much more ambiguous about the mechanism behind intergenerational links in their model and very similar conclusions are reached.

3. For illustration, the model is derived from the utility function of the wife's parents so that parental income and utility is subscripted  $w$ , however, it can be expressed symmetrically from the son's point of view.



Parents solve this model subject to their budget constraint, which enables them to spend their current income (no debt or bequests) on either own consumption or the education of their children. Each unit of human capital is produced with a marginal cost  $p_H$ .

Solving the model gives the following solution for the intergenerational parameter,  $\beta$ , the coefficient from a log-log regression of child's income on parents' income. Intergenerational persistence is positively related to parental altruism and the returns to education for women, but negatively related to the cost of investment.

$$\ln Y_{wi} = \alpha_1 + \beta_w \ln Y_{iw}^{parents} + \varepsilon_{wi} \text{ where } \beta_w = \pi \gamma_w / p_H \quad (5)$$

Similar factors are important for the relationship between husband's income and his wife's parental income. In this case, the male return to education features and the relationship is moderated by assortative mating and the differences in the distribution of education between husbands and wives, where  $\sigma^H$  is the standard deviation of human capital.

$$\ln Y_{hi} = \alpha_2 + \delta_w \ln Y_{iw}^{parents} + \varepsilon_{hi} \text{ where } \delta_w = \rho \pi \gamma_h / p_H \frac{\sigma^{H_h}}{\sigma^{H_w}} \quad (6)$$

Putting  $\beta$  and  $\delta$  together enables us to understand more about the expected relationship between these two parameters. If the model is worked through in terms of son's parental income, the relationship is symmetric so that:

$$\frac{\delta_w}{\beta_w} = \rho \frac{\sigma^{H_h}}{\sigma^{H_w}} \frac{\gamma_h}{\gamma_w} \text{ and } \frac{\delta_h}{\beta_h} = \rho \frac{\sigma^{H_w}}{\sigma^{H_h}} \frac{\gamma_w}{\gamma_h} \quad (7)$$

There is a strong relationship between  $\beta_w$  (the intergenerational elasticity for daughters) and  $\delta_w$  (the intergenerational elasticity between the daughter's partner's income and her parents' incomes). The similarity between these parameters is clearly closely related to the extent of assortative mating, with larger  $\rho$  meaning that  $\beta_w$  and  $\delta_w$  are closer to each other.

As discussed in the introduction, one of the motivations behind this paper is to show the link between assortative mating and the intergenerational mobility of family income. Indeed, if all agents worked, then there would be a very close link between the intergenerational correlation of joint income, and the wife's own and partner's elasticities,  $\beta_w$  and  $\delta_w$ .

$$\ln(Y_{hi} + Y_{wi}) = \alpha_3 + \mu_w \ln Y_{wi}^{parent} + \varepsilon_{wi} \quad (8)$$



$$\text{Where } \mu = \frac{\partial(Y_{hi} + Y_{wi})}{\partial Y_{wi}^{parents}} \cdot \frac{Y_{wi}^{parents}}{(Y_{hi} + Y_{wi})} \quad (9)$$

Equally,

$$\beta_w = \frac{\partial Y_{wi}}{\partial Y_{wi}^{parents}} \cdot \frac{Y_{wi}^{parents}}{Y_{wi}} \text{ and } \delta_w = \frac{\partial Y_{hi}}{\partial Y_{wi}^{parents}} \cdot \frac{Y_{hi}^{parents}}{Y_{wi}} \quad (10)$$

It is simple to show that

$$\begin{aligned} \frac{\partial(Y_{wi} + Y_{hi})}{\partial Y_{wi}^{parents}} \cdot \frac{Y_{wi}^{parents}}{(Y_{hi} + Y_{wi})} = \\ \frac{\partial Y_{wi}}{\partial Y_{wi}^{parents}} \cdot \frac{Y_{wi}^{parents}}{Y_{wi}} \cdot \frac{Y_{wi}}{(Y_{hi} + Y_{wi})} + \frac{\partial Y_{hi}}{\partial Y_{wi}^{parents}} \cdot \frac{Y_{hi}^{parents}}{Y_{hi}} \cdot \frac{Y_{hi}}{(Y_{hi} + Y_{wi})} \end{aligned} \quad (11)$$

which is equivalent to  $\mu_w = (1-s)\beta_w + s\delta_w$ , where  $s$  is the share of husband's income in  $(Y_{iw} + Y_{ih})$ . However, as it is not the case that  $\beta_w$ ,  $\delta_w$  and  $\mu_w$  can all be estimated on the same samples of couples, we would not expect to see this precise relationship in the actual data. Nonetheless, it is suggestive and shows that as the share of income contributed by male partners is greater than that contributed by female partners; the extent of assortative mating would have a particularly strong influence on the household income persistence of daughters.

We shall estimate all of the individual intergenerational parameters  $\beta_w$ ,  $\delta_w$ ,  $\beta_h$ , and  $\delta_h$ , as well as the measures of mobility for the couple's joint earnings;  $\mu_w$  and  $\mu_h$ . These parameters allow the assessment of the degree of intergenerational mobility and assortative mating in Canada and the comparison of it with the results for the U.S. and U.K. from Chadwick and Solon (2002) and Blanden (2005a).

### *Search models and assortative mating*

The second stage of this paper considers the association between parental incomes in couples, while the motivating model presented above relies on a positive association between the education levels of husbands and wives. Before proceeding, we shall therefore spend some time discussing the early literature on marital matching. We also discuss the additional predictions which emerge from a search model of the marriage market.

The early formal models of marital sorting were based on mathematical assignment models, where all individuals share the same ranking of potential marriage partners. In this case, a pure sorting equilibrium will result; the  $n$ th ranked woman and the  $n$ th ranked man will be matched, and so on throughout the distribution. Becker's model (1973, 1974) introduced a richer description of the benefits of marriage and modelled the incentives for behaviour within families.

For Becker, all potential marriages have an output  $Z$ ;  $Z$  includes the earnings of both partners, the gains from the division of labour within marriage, as well as the utility from rearing children and from receiving affection within the family. In a utility maximizing framework, all individuals will be seeking the marriage with the highest possible  $Z$ . In a sorting model with no frictions, Pareto efficiency requires that men and women will sort into partnerships which maximize the total amount of  $Z$ . The mathematical properties of submodularity and supermodularity state that output is maximized if 'likes' are matched when male and female traits are complements in producing  $Z$  and 'unlikes' match when male and female traits are substitutes in producing  $Z$ .

It then follows that couples will be positively matched on characteristics such as education and ability that are complements in the production of high-quality children and negatively matched on wage rates (conditional on other characteristics) as these are substitutes in the production of market goods. Of course, the strong correlation between education, ability and wages, means that it would be very difficult to separately identify a negative relationship between the wage rates of couples. Moreover, Lam (1988) argues that in the presence of household public goods, wage rates should be positively correlated, even conditional on other characteristics. All these models, therefore, point towards a positive correlation in human capital between members of couples, as represented in equation (1).

These strong predictions of positive assortative mating on characteristics also encourage us to expect a positive correlation between the parental incomes of individuals in a couple. This is, in part, because of the positive match on characteristics like ability and education, which will be related to parental income through intergenerational mechanisms. In addition, partners may match on parental income if bequests are complements in household production.

A further mechanism will operate if there are direct preferences to match with someone from a similar background. Fernandez et al. (2004) find that intergenerational transmissions affect preferences about women working, so that men tend to marry women with the same work status as their mothers. It is possible that other preferences could be similarly transmitted leading to a direct connection between the parental incomes of partners. For all of these reasons, we would expect to find positive assortative mating on parental income.

In the original assignment models of the marriage market, searching for partners is costless, and the matches that form are stable; leaving no room for divorce or remarriage. In order to place the marriage market in a more realistic framework Burdett and Coles (1997, 1999) and Shimer and Smith (2000) formalize search and matching models of the marriage market to parallel the literature for the labour market. In these models, search frictions mean that individuals meet only infrequently. They must decide to either accept each other or wait for the next potential match to come along. Due to these frictions, individuals are willing to accept partners who are quite far from the perfect allocation, leading to weaker assortative mating than under a pure assignment model.



Consequently, assortative mating will be weaker for couples whose search is less intensive, perhaps because of higher search costs. In our empirical work we test a number of predictions that stem from this argument. We might expect that cohabiting partners, who may have weaker attachments, to have weaker assortative mating than those who are married. In addition, a longer search will lead to a better match so variation in matching by age at marriage is considered. The cost of search may vary by region, and in particular is likely to be higher in rural areas.

Mortensen (1988) explores the predictions of search models for divorce and remarriage. In this framework, there are two reasons for divorce. As noted above, search frictions mean that it is hard to find your 'perfect' partner, consequently matches may end if a better alternative is found, even if partners are fully informed about the quality of the match. Divorce is more likely if individuals are far from the optimal allocation. Alternatively, divorce may result from uncertainty when individuals only learn about the quality of the match after marriage. In this case, the probability of divorce will be positively related to the variance of the unanticipated part of match quality.

Becker, Landes and Michael (1977) and Weiss and Willis (1997) have used similar frameworks to empirically investigate the covariates of divorce. The studies find that couples who are similar on the grounds of religion, education and ethnicity are less likely to divorce. This confirms that couples who are less well-matched on characteristics (far from the optimal allocation) are more likely to split up. In addition, unexpected events such as infertility or deviations from expected wages are related to higher divorce probabilities. The authors interpret this as demonstrating the effect of unanticipated match quality, although we might imagine that the correlation may result from the additional stresses and strains which go hand-in-hand with negative shocks.

If the extent of parental income matching acts as a signal of match quality, this implies that we might expect that those who are well matched on parental income are less likely to divorce. This hypothesis is possible to test using the IID as partnership histories can be generated for individuals aged up to 30. This interpretation of assortative mating clearly rests on very strong assumptions about the way the marriage market operates. It is obvious that unobserved match quality is an extremely important determinant of who marries and divorces, and that this may work to counteract differences in parental background. If we believe that the interpretation of assortative mating as a measure of match quality is too strong, there are alternative interpretations which can be placed on the finding that coming from similar parental backgrounds reduces the probability of union dissolution. For example, it could be that coming from similar family backgrounds lowers the variance of unanticipated shocks as individuals are better informed initially, in line with Mortensen's (1988) second prediction. Of course, it could also be that there is less tension in marriages when couples are well-matched on parental income.

### *Estimation issues*

The first results estimated are the elasticity between the earnings of individuals and their parents' income and between their partner's earnings and parental income, these are

found by estimating the coefficients  $\beta$ ,  $\delta$ , and  $\mu$  from equations (5), (6) and (8), while controlling for the age and age-squared of both generations. As an alternative measure of the link between incomes across generations, we report the equivalent partial correlations for all the relationships considered here. The partial correlations and coefficients will differ when income distributions have difference dispersion across the generations, as shown below. This is particularly important in this case, as women's incomes tend to be more dispersed than men's, and not adjusting for this will paint a misleading picture of the relative extent of persistence for different dependent variables.

$$(\text{Corr}_{\ln Y^{\text{parent}}_{\text{age}}, \ln Y^{\text{child}}_{\text{age}}}) = \beta \left( \frac{SD_{\ln Y^{\text{parent}}_{\text{age}}}}{SD_{\ln Y^{\text{child}}_{\text{age}}}} \right) \quad (12)$$

The measurement of these intergenerational parameters is far from straightforward, and there are a number of important estimation issues relevant to the work presented here. As discussed in Solon (1999) a number of these problems can lead to substantial downward biases in the literature, and as they have been successively resolved the U.S. consensus estimate of  $\beta$  has risen from Becker and Tomes' (1986) 0.25, to Solon's 1999 '0.4 or a bit higher', Solon (1999, p. 1784).

Measurement error in the explanatory variable is a perennial theme in this literature. Ideally, the measure of parental income used would approximate permanent income, imperfect measures are likely to lead to downward biased estimates of intergenerational persistence. The parental income measured used here is a five-year average of parents' total annual income, taken from the year when the son or daughter was 14 until the year they turned 18, which should reduce year-on-year fluctuations. The administrative nature of the data (it is generally derived directly from payslips) means that inaccuracy in the income reports themselves should be substantially lower than in surveys, which are the usual source for data used in measuring intergenerational mobility.

One of the most important problems with the early intergenerational mobility work discussed by Becker and Tomes is the reliance on limited samples of fathers and sons, which are by no means representative of the population as a whole. Solon (1992) shows that limiting the sample to a particular subgroup substantially reduces the estimated intergenerational parameter. Indeed, the shift to a representative sample is shown to make more difference to the estimate than time-averaging to reduce measurement error. The nature of the derivation of the IID means that representativeness is a concern, and one we discuss at length in the data section.

Recent work (Grawe, 2003 and Haider and Solon, 2004), has highlighted the importance for estimation of the age when children's incomes are measured. In general, measurement error in the dependent variable is regarded as non-problematic by economists but Haider and Solon demonstrate that if children's incomes are measured at an early age, measurement error will be systematically correlated with permanent income, meaning that the observed parameter will be downward biased. Unfortunately the most recent data



available is for 1998, which given the sample are born in 1967-1970 means they are rather young, especially compared to Haider and Solon's recommendation that earnings are measured for both fathers and sons at age 42. Updating the data into the 2000s could potentially have important impacts on the quality of the intergenerational estimates available from this data.

The annual nature of the IID data means we are able to experiment with different measures of the dependent variable. To get closer to the permanent income of children we use three-year averages of children's and partners' earnings from 1996 to 1998, where children must have positive earnings in all three years. Taking three-year averages means using earnings information for some individuals who are as young as 26. We therefore report both results using the latest data from 1998 and using a more permanent measure of earnings averaged between 1996 and 1998.

We present the full set of results for both genders, meaning that estimates of intergenerational mobility must necessarily be based on current incomes. We have already noted that researchers have generally avoided using the earnings of women as dependent variables in intergenerational regressions. In this paper, both daughters' and female partners' earnings will be used as dependent variables. This generates two difficulties. The first is that some women will not report income from work in a given year, and these women will be excluded from the sample. As the decision to work in a year is not exogenous to intergenerational factors; this will result in selection bias. The second is that women will have different working patterns over the year; so that annual earnings will be related to labour market participation. This will complicate interpretation of the estimates further. If women from poorer backgrounds are likely to work less, upward biased estimates of intergenerational persistence will result. There is no information on hours worked in this data to help disentangle these effects.

Returning to the first point, the classic analysis of the problems caused by selection bias is presented in Heckman (1979). There are two equations governing the processes, an earnings equation for all women (where, in this case, the explanatory variable would be parental income) and a latent variable relationship governing the decision to participate.

$$Y_i = \alpha + \beta X_i + u_i \quad (13)$$

$$Z_i = \xi_0 + \xi_1 Q_i + \varepsilon_i \quad (14)$$

The woman participates only if  $Z_i > 0$ . Therefore, the regression of the observed  $Y_i$  (daughter's earnings) on  $X_i$  (parental income) will be biased by an additional error term, similar to an omitted variable bias. If those with higher earnings are more likely to work, and  $X_i$  is positively correlated with earnings,  $\beta$  will be upward biased for women.

$$Y_i = \alpha + \beta X_i + E(u_i | \varepsilon_i > -\xi_0 - \xi_1 Q_i) \text{ for the employed sample.} \quad (15)$$

In Blanden (2005a), this selection problem is addressed using the Heckman selection correction procedure, where participation is predicted on the basis of characteristics, and  $\beta$  is estimated using a two-equation model. This approach is always difficult due the paucity of variables which are available to predict participation but do not affect earnings, but it is not possible to even attempt in this paper. The main limitation of the IID is that very little additional information on the characteristics of individuals is provided. The U.K. evidence suggests this may cause the intergenerational elasticities to be upward biased when women's earnings are the dependent variable.

### 3. Data and description of matching procedure

#### *Data description*

The data used here is from the Intergenerational Income Data (IID). The IID has been constructed from the T1 Family File held by Statistics Canada. The tax records provide information on all income tax returns in Canada between 1979 and 1998. Information on names, addresses and ages included in the data allowed Statistics Canada to match individuals born between 1963 and 1970 with their parents. This was possible provided both generations filed a tax return while the child was living at home in his or her late teens.<sup>4</sup>

As the data is based on administrative records, its size is considerable: Statistics Canada estimates that the data include around 70% of the relevant age group (Cook and Demnati, 2000). Another advantage of using data based on administrative records is that there is considerably less concern about measurement error and attrition; although the unique structure of this data does bring with it additional worries. The main concern is that the methods used to match the data may lead to some fundamental sample selection biases, a question we shall return to below.

A second disadvantage of the IID has already been mentioned; there are very few background characteristics available in the data. The information used here is restricted to what is given on the T1 tax return. Very basic information is available about the individual; age, sex, marital status, spousal Social Insurance Number (SIN), whether the individual filed in French or English and some more demographic information concerning the family in the year the child is matched with their parents. The remaining variables are taken directly from the earnings and income information required on the tax return. In this analysis, the main variables used are total employment income (earnings), and "total income" which is the sum of all the income required to be declared on the T1. "Total income" is earnings, self-employment income and asset income (including rents, interest, capital gains and dividends) plus transfers. Which transfers are included varies somewhat by year; for example, welfare payments are included in later years, so they are

---

4. The precise structure of the matching procedure is as follows: individuals are split into three cohorts, those aged 16-19 in 1982, those aged 16-19 in 1984 and those aged 16-19 in 1986. Individuals are matched with parents at any time in the five years surrounding 1982, 1984 and 1986 for each cohort respectively.



present in the measure of total income for adult children's income, but not for their parents.

### *Individual intergenerational sample*

Before considering assortative mating we present estimates of intergenerational mobility by gender and partnership status. These samples include all sons and daughters born between 1967 and 1970. We extract two measures of income for the two generations: annual earnings and annual total income. Parental income is defined as the average of income when the child was 14 to 18. We exclude income/earnings reports of less than \$1 for parents and \$2<sup>5</sup> for the adult children.

### *Matching spouses*

There are two features of the data which allow the matching of couples with both sets of parents. First, there is information on the SIN of spouses and cohabitees. Second, the near universality of the data means that many of the spouses/cohabitees of those included in the data will have intergenerational records. A limitation is that SINs are not obtained for all cohabitees. Married individuals are always asked to state their spouse's SIN on their tax return but individuals were not asked for their cohabitee's SIN until after 1992. Also, the definition of cohabitation is more restrictive than in surveys. Partners are defined as cohabitees if they are the natural or adoptive parent of the individual's children, if they have lived together continuously for a year or had lived together for a year in the past. This means that the matches found will miss the shortest cohabitations, a limitation which has advantages and disadvantages. The sample will not be representative of all couples, but results will not be distorted by the inclusion of very temporary cohabitations.

In order to construct the spousal sample, we focus on daughters born between 1967 and 1970. We are then able to search for the 'spouses' of these women from the entire IID sample of men born between 1963 and 1970, allowing for the fact that women often match with men somewhat older than themselves. We will comment more on this feature of the match when discussing how representative the data is.

### *1998 Spouse sample*

The first sample used is couples who are married/cohabiting in 1998. The first stage is to match daughters who filed for tax in 1998 with their spouse's tax return for 1998. Fortunately, 98% of those who declare themselves to be married or cohabiting in 1998 include their spousal SIN on their tax return. As shown in Table 1, there are 511,636 women born between 1967 and 1970 in the dataset, 294,251 of whom file tax returns in 1998 and state that they are married or cohabiting, 179,341 couples are matched on the basis of their 1998 returns, 60% of all the women who report having partners in 1998.

---

5. There is some bunching at very low levels of income and earnings in all years. It is important to take account of these observations as they are almost certainly a consequence of mis-measurement. We have experimented with a variety of methods and the precise approach used appears to make little difference to the results obtained.

There may be a concern that the requirement that both members of a couple file in 1998 will introduce a selection bias. This would be a particular difficulty if women filed less than men because of weak labour market attachment. The evidence suggests this is less of a problem than we might imagine with 7% of males in the IID not filing in 1998 compared with 11% of females. In order not to miss individuals who do not file in 1998, I adopt a second stage to the match based on all years on data. This adds an additional 5,000 couples to the sample.

### *Divorce and separation sample*

The first sample of couples created is of all surviving partnerships in 1998. However, this will not enable exploring the dissolution of partnerships. To do this we create a separate sample which matches couples in the year that the partnership is first observed in the IID, i.e., the first year that a spousal SIN is listed. This approach means that we are able to track all the partnerships listed by an individual, and match partners when they are included in the IID.<sup>6</sup> The obvious difficulty is that we can only match partners when the sample individuals are young, up to 31 at the oldest, so only early partnerships and dissolutions are included.

In the 1998 sample of couples, we match both those who are legally married and those who are cohabiting. As the marital status “cohabiting” was not included on the tax return until 1992 this is not possible for the full relationship history, so before 1992 cohabiting partners are necessarily excluded. In the empirical work, this is dealt with in two ways. One approach is to use both types of partnerships but exclude any first observed before 1992, the second is to consider only those partnerships which resulted in marriage, and take the starting point from the year the individual first reported herself as married.

### *Are the IID samples representative?*

Owing to the sample selections inherent in the intergenerational matching procedure employed in the construction of the dataset, it is important to establish that the samples obtained from the IID are representative of the population of interest. Individuals are only included in the sample if at least one parent files for tax in a year that the child is living at home and also files for tax. Compulsory tax filing in Canada means that children will file even if they are only undertaking part-time or holiday work while in education, but concerns remain. Families who are excluded from the IID may come from the lower part of the income distribution (parents have no labour market attachment, children are unemployed or work in the underground economy) or the upper end (children are in education and do not work at all). As explained by Oreopoulos (2003) the likelihood of the second outcome is reduced by the ability of those in full-time education to obtain tax credits and deductions by filing.

Oreopoulos (2003) and Corak and Heisz (1999) both explore the representativeness of the IID. Oreopoulos finds that those who are missing from the IID tend to have somewhat

---

6. Further work is needed to understand how this sample may be affected by the sample selection issues inherent in the IID.



worse socio-economic characteristics than the average, while Corak and Heisz find that the IID is somewhat better at picking up observations at the very extremes of the distribution. In addition, Corak and Heisz estimate a sample selection correction model for those who are matched to fathers and find that the correction makes essentially no difference to their estimates of intergenerational mobility. Cook and Demnati (2000) design weights to deal with the sample selections, in Blanden (2005b), the author demonstrates that the application of these weights has very little impact on the intergenerational coefficients, depressing them by 0.005, from a base of between 0.16 and 0.20. Of course, all these comments apply only to the IID in general; matching spouses within the IID may result in an additional pattern of selection.

Tables 2 and 3 present our own investigation of these issues. First, we compare the key characteristics of all women in the IID born 1967–1970 who are single in 1998 with those with partners (according to the tax definition), and most importantly, those who can be matched with partners in the IID. In Table 3 we show the characteristics of women from the same cohort observed in the 1998 SLID sample, again by partnership status. This demonstrates the features of the IID sample in comparison with a nationally representative, if small, sample.

Our comparison of single women in the IID with those with partners (Table 2) indicates that women with partners are slightly less likely to file positive earnings, and have somewhat lower earnings and parental income (this is likely to be a result of a negative relationship between parental income and the age at which women form partnerships). More interesting is the comparison of all women with partners with women matched with their partners in the IID. There is evidence that daughters and their parents who are matched are slightly better off. Their own earnings are, on average, \$400 higher than all women with partners, and their parents' incomes are \$1000 greater. This indicates that a bias towards better off women is introduced by restricting the sample to those with partners in the IID.

Table 3 shows the characteristics of women born between 1967 and 1970 in the 1998 SLID. For both single women and those with partners, average annual earnings in 1992 dollars are about \$1,500-\$2,000 higher for the IID samples than they are in the comparable samples in the SLID.<sup>7</sup> However, this cannot be seen purely as confirmation that the IID misses some poorer individuals, as it may indicate that the administrative data is better at capturing the incomes of the better off.

The SLID data shows the consequence of the strict definition of a cohabiting couple in the tax data. The proportion of the sample that is recorded as having partners is larger in the SLID than in the IID sample (58% have partners in the IID compared to 65% in the

---

7. There is also some evidence of a different regional composition in the two samples. The IID has a lower proportion of the sample than the SLID in Ontario and British Columbia. A lower proportion in the IID in Montréal and Vancouver is found in Corak and Heisz and is attributed to the exclusion of recent immigrants from the IID.

SLID). Also, a slightly lower proportion of women in partnerships are married rather than cohabiting in the SLID compared with the IID.<sup>8</sup>

The SLID data can also be used to provide information on partner's age for the women in this cohort. This is important as the structure of the IID means it is only possible to match up those spouses born between 1963 and 1970. Of women in the SLID with partners in 1998, 72% are with men born between 1963 and 1970. Assuming that the age distribution of partners is the same in the IID as in the SLID (a strong assumption as the definition of cohabitation used to construct the samples is not comparable), and given that we know that the IID covers 70% of the cohort, we would expect to match just over 50% of women with their partners. In fact, 63% are matched. This suggests either that women in the IID are more likely to be cohabiting with or married to men born between 1963 and 1970 than those in the SLID, or that the coverage rate for these partners is higher than 70%. A higher than average coverage rate for the partners of women in the sample suggests that the probability of women and their partners being in the IID is positively correlated. This is not surprising as we think they are positively matched on the basis of characteristics which determine if they are included in the IID.<sup>9</sup>

#### 4. Results on intergenerational mobility

##### *Intergenerational mobility for sons and daughters in Canada*

Table 4 shows the intergenerational mobility of sons and daughters in Canada by partnership status. This provides a background to the discussion of the contribution of assortative mating to intergenerational persistence. We show two sets of results for each gender, one based on a single year of earnings data, and another based on earnings data averaged through 1996 to 1998. In all cases, we report the regression coefficient  $\beta$  and the partial correlation.

All the results indicate comparatively high mobility in Canada, with estimates of  $\beta$  ranging from 0.15 to 0.21, and estimates of the partial correlation coming in at a somewhat lower range. The estimates are very much in line with those reported in Corak and Heisz (1999) using the same data. They encourage the conclusion that Canada is among the more mobile of developed countries. In particular, there is a marked difference in the extent of mobility in Canada compared with the United States. The possible explanations for this are obviously intriguing, but are not a focus of this paper.

Here we are interested in how estimates compare for sons and daughters and for those who are single compared with those in couples. The elasticities suggest that intergenerational persistence in Canada is approximately equal for sons and daughters;

---

8. At this stage in the research, it is not possible to construct a sample in which cohabitation is defined in a way more similar to the tax data. This will be attempted in subsequent analysis.

9. Cook and Demnati (2000) design weights to account for the differences between the IID data and unmatched tax records. These change the intergenerational results only very slightly by around 0.005, however, they would not account for any additional bias introduced through the matching procedure.



however, the correlations show that persistence for men is stronger than for women. Although the difference in the correlations by gender is small, the large sample size means that it is statistically significant for those in couples. Results based on the average dependent variable show that the intergenerational correlation for sons with partners is 0.185 (0.002) compared with 0.168 (0.002) for daughters with partners.

In all but one case, Table 4 reveals that intergenerational mobility is weaker for those in couples than for single individuals, for both men and women. For women, this may be because lower annual hours among married women are correlated with low parental income. Another explanation is that the difference between single and partnered individuals is associated with age within the cohort: single individuals are likely to be younger and this is associated with lower estimates of earnings persistence. This will be investigated in further work.

In this section, we have explored the relationship between the earnings of adult children and parental income. The tax data include a number of alternative income measures that could be used as both the dependent and explanatory variable. For reasons of space, we do not show the full range of results here. However, one particularly striking result is that in every case but one (daughters in couples), the elasticity and correlation between the child's total income and total parental income are stronger than those between the child's earnings and parental income. In the total income specifications, the intergenerational correlation approaches 0.2. This implies that parental endowments and investments affect welfare in ways additional to labour market performance.

#### *Intergenerational mobility and assortative mating*

The next step in the analysis is to examine how assortative mating and individual intergenerational mobility interact to drive intergenerational persistence between family incomes. In Table 5, we use matched sample of couples in 1998 to show results for individual intergenerational mobility, alongside the elasticity between partners' earnings and parents' income and between parental income and the total earnings of the couple.

The first two panels of Table 5 show results where the daughter's parental income is used as the explanatory variable. As the IID data also provides information on her partner's parental income, the lower panels report estimates for the same sample of couples where the husband's parental income is used as the explanatory variable.

Turning initially to the results for individual persistence, it is reassuring that these are very similar to those obtained for all sons and daughters in couples in Table 4. Even though the descriptive statistics in Table 2 showed that women who are matched with their partners tend to be slightly better off, this suggests that the rest of the results presented for matched couples should not be biased by selection into this sample.

The first clear result is that relationship between parental income and the partner's earnings is strong and significant in all cases; there is evidence of strong intergenerational assortative mating. More interesting, however, is the way in which the relationships

compare, both across different dependent variables, and between explanatory variables, i.e., whether we are looking from the point of view of the husband's or wife's parental income.

Taking the daughter's results first (top two panels), these vary somewhat depending on whether the measure of intergenerational mobility considered is the elasticity (regression coefficient) or the partial correlation. By the elasticity measure, the strongest relationship is between the daughter's parental income and her own earnings; this is followed by the couple's joint earnings and then her husband's earnings. For the partial correlation measure however, the relationship between joint earnings and parental income is stronger than for either the husband's or wife's earnings. The explanation for the difference between the elasticity and partial correlation measures is that the wider variance in earnings for daughters inflates the coefficient of  $\beta_w$  relative to the partial correlation in comparison to the results for sons.

That  $\mu_w > \beta_w$  and  $\mu_w > \delta_w$  may seem counterintuitive in the context of the earlier discussion around equation (11), where the coefficient on joint earnings was shown to be a weighted average of those for the two partners. However, it is important to remember that not everyone is working in this sample. In this case, those who have no earnings will be included in the joint earnings sample, but not in the individual sample. If parental income is lower for the couples where one partner has zero earnings, then we would naturally expect  $\mu_w$  to be larger. This pattern is confirmed when the husband's parental income is the explanatory variable; then joint earnings is more closely related to individual earnings in all cases.

Another noticeable difference between the results based on daughter's parental income and her husband's parental income is the strength of the relationship between partners and parents. The partner-parent relationship seems slightly stronger when the daughter's parental income is the explanatory variable, both  $\delta_w > \delta_h$  in an absolute sense and  $\delta_w$  is much closer to  $\beta_w$  than  $\delta_h$  is to  $\beta_h$ . The traditional view is that marriage is important for securing the social position of women, but less so for men<sup>10</sup> and while there is some evidence of that here, the differences are small, indicating that assortative mating also has an important role on the intergenerational transmission of income for men.

Comparisons can be drawn between these results and the similar ones shown in Blanden (2005a) for the U.K. In the 1958 cohort when son's parental incomes are linked to his later earnings, his partner's earnings and his household earnings, assortative mating does not appear to be important,  $\delta_h$  is insignificant and  $\mu_w < \beta_w$ . However, results for the 1970 cohort are much more similar to those for Canada (albeit with stronger levels of persistence in all cases), with daughter-in-laws making an important contribution to intergenerational mobility. For daughters, assortative mating makes an important contribution to intergenerational mobility for both cohorts.

---

10. Note that in Glenn, Ross and Tully's (1974) study of social mobility, women's mobility is considered solely in terms of their husband's occupation.



The results in Chadwick and Solon (2002) for the U.S. are not entirely comparable with those shown here as estimates are not reported for models where the dependent variable is female earnings (either for daughters or sons' partners). Also, only the estimates coefficients are reported, not the partial correlations. The results do show that when daughter's parental income is the explanatory variable,  $\delta_w$  is greater than  $\mu_w$ , suggesting very strong assortative mating. In contrast when son's parental income is the explanatory variable,  $\beta_h$  is very slightly larger than  $\mu_h$ . In summary, the picture from other countries confirms what is found for Canada; assortative mating is important for the intergenerational persistence for both genders, but somewhat more so for women.

## 5. Results on assortative mating

### *Assortative mating by education*

In this section, we consider assortative mating directly. As the IID has little information about personal characteristics, we cannot compare our new approach to measuring matching based on parental income with a more standard model of matching based on education. We therefore begin by using the SLID to investigate matching on education level.

Table 6, shows the distribution of educational attainment for the sample drawn from the SLID. This sample is based on 1998 data and includes all couples where the 'wife' is aged 25 to 40 at the time of the survey. The tabulation of education levels reveals a strong concentration of the sample at the 'further education' level; almost half of both the male and female partners are in this category. It also demonstrates that women tend to be slightly more educated than men in this sample, being less likely to drop out of school, and somewhat more likely to obtain a degree.

Table 7 shows the relationship between the education levels of couples in this sample. The first number displayed in the upper panel is the proportion of couples with each combination of education levels. We show the proportion expected in each cell if education levels are independent within couples (i.e., simply by multiplying the probabilities of the two outcomes). This compares the actual distribution with the counterfactual distribution if there were random matching. The lower panel makes this comparison more explicit by showing the ratio of the two (in other words, how much more likely the combination is for couples than would be expected).

As we would expect, there is evidence of assortative mating by education levels. In all cases, the number on the leading diagonal of the lower panel is greater than one, indicating that individuals are more likely to marry those with similar education levels. Also, cells that are further away from the leading diagonal have smaller ratios. For example, combining the independent probabilities that men and women drop out means that 2% of couples would be formed of men and women who are both high-school drop outs. In fact, 5% of couples have this outcome, meaning it is more than two and-a-half times more likely than we would expect. Similarly, 3% of couples would be expected to

consist of a drop-out husband and a graduate wife, less than 1% of actual couples have this combination.

In order to aggregate the results shown in Table 7, we find the proportion of couples which share the same education level and compare this with the proportion expected to do so if education levels were independent. We find that 49% of individuals match with someone in the same education group, while 32% would be expected to do so. Taking the ratio of these gives 1.514, the aggregate measure of assortative mating on education. Expanding the definition of matching to also include those who match with a partner in the adjacent education group reduces this measure to 1.174. To put these results in context, they can be compared with similar figures derived in Blanden (2005a) for the U.K. In this data, comparable numbers are 1.4-1.6 for the same category and 1.3-1.4 for the same or adjacent categories. Matching on education in Canada therefore appears to be at approximately the same level as found in the U.K.

#### *Assortative mating by earnings, income and family background*

Table 8 reports elasticities and correlations between alternative measures of economic status for couples in the IID.<sup>11</sup> Three sets of results are presented, those for earnings and incomes for the couple in 1998, results for these measures averaged over 1996-1998, and results for five-year averages of parents' and parents-in-laws' earnings and income. The elasticities and partial correlations provide average measures of assortative mating, meaning that it is straightforward to compare the extent of assortative mating by different variables.

In Becker's analysis of assortative mating, he predicts that individuals will match negatively on wages and positively on unearned income, because wages are substitutes within the couple in the production of market goods. However, negative matching on wages will only be found if all of the correlation between wages and non-market productivities can be stripped out, as these will be complements in producing household goods. We would expect, therefore, to find an unconditional positive relationship between the wages of a couple. To complicate the issue further, information is only available on annual earnings not wages, meaning that joint household labour supply decisions will also drive the results.

The strongest correlation observed between partners' income or earnings is for the three-year average of earnings: the correlation in this measure between 'husbands' and 'wives' is 0.16. Assortative mating is stronger on own earnings than on own income. However, the correlations between the market and total income of partners are difficult to interpret as in some cases, joint assets may be assigned to one partner on the tax return in order to attain the optimal tax treatment. As expected, the use of averaged measures of incomes raises the observed correlation between couples.<sup>12</sup>

---

11. Descriptive statistics for this sample are shown in the appendix.

12. The sample sizes are smaller for the second panel as not all couples were couples in all years, but differing sample sizes do not explain the difference between the single year and averaged results.



The lower panel of the table reports the elasticities and partial correlations of daughter's parental income with respect to her partner's parental income. It is clear that the extent of matching on parental income is very similar to the extent of matching on earnings within a couple. The correlation between earnings with the couple is 0.16 while the correlation between parental incomes is 0.19. Results for parental income are stronger than they are for parents' earnings, illustrating that total resources may be a more important driver of matching on parental characteristics.

Ermisch and Francesconi (2002) explore the correlation in occupational indices of parents using data from the U.K., and find it to be around 0.16, slightly lower than the correlation in occupational status between parents and their children in the same sample. For Canada, the correlation between the incomes of parents-in-law is 0.19. This is stronger than the relationship between parental income and children's earnings but very similar to the correlation in total incomes between generations, which we find to be close to 0.2. To borrow terms from Ermisch and Francesconi, this implies that, in Canada, the degree of horizontal income persistence (between parents-in-law) is similar to the degree in vertical income persistence (between parents and children).

#### *Variations in assortative mating*

Table 9 shows how assortative mating on parental income varies with some of the characteristics observed in the IID. The motivation behind this is to test if assortative mating on parental income is low in cases where we would expect the search to be less intensive. We, therefore, test the relationship between assortative mating and the following variables: cohabitation, age at the start of the relationship and urban/rural residence. The table shows the coefficient on daughters' partners' parental income in a regression of her parent's income, and the coefficient on this variable when interacted with the characteristic of interest. We do not show partial correlations to account for different variances, as this adjustment has little effect for the parents-in-law results.

Cohabitation in Canada, as in many other developed countries, has risen rapidly over recent years. Wu (2000) provides an extremely thorough investigation of this change, the possible reasons behind it and its implications. Between 1981 and 1996, the number of families that included an unmarried couple rose from 1 in 17 to 1 in 7 (Wu, 2000, p.1). As shown in Table 2, in our sample, 15% of the matched couples are in cohabiting unions rather than marriages. How can these cohabiting unions be interpreted? Clearly, they do not have the legal standing of marriages and we may therefore expect they will, on average, be entered into more casually. In addition, cohabitations are frequently short: half end within three years. However, the majority of cohabitations that end within three years become marriages. This implies that cohabitations (particularly for the young) can be thought of as trial marriages. Wu (2000, p.3) puts this explicitly in terms of assortative matching.

...cohabitation can be seen to perform the function of a 'trial marriage', weeding out the 'bad matches' from the assortative matching process and keeping the good ones.

With this hypothesis in mind, we may expect cohabiting unions to have lower associations between parents-in-laws incomes than marriages. The first result shown in Table 9 shows that this is, indeed, the case: while the average elasticity between parents-in-law's incomes is 0.183, the elasticity for those in cohabiting unions is 0.03 lower than for those who are married. This result has indirect support from studies examining matching for couples in the U.S. 1990 Census. Both Blackwell and Lichter (2000) and Jepsen and Jepsen (2002) find that correlations between the education and race of partners is lower among cohabiting couples.<sup>13</sup>

The second hypothesis tested, is whether the parents-in-law elasticity varies with the age when the partnership is formed. The educational homogamy literature (Mare, 1991, Chan and Haplin, 2003) has stressed the importance of the number of years between age at marriage and age left education in determining the closeness with which couples match on educational level. If marriages form soon after school leaving age they are more likely to be with former classmates, implying a negative relationship between the closeness of matching and age at marriage. Other studies have stressed that a later age at marriage means that individuals have searched more. Weiss and Willis (1997) show that a later age at first marriage is associated with a lower probability of divorce.

The second result presented in Table 9 shows the interaction between the age the relationship began and the parents-in-law elasticity. This interaction is small, but significant; for every year that individuals wait before beginning a partnership the association between their parental incomes is increased by 0.002, so if individuals wait five years, the elasticity is increased by 0.01. This provides some support for the Weiss and Willis finding that longer search leads to a 'better' match.

Another dimension on which theory has implications is population density. If assortative mating is interpreted as the outcome of a search process, we would imagine that young people in rural areas will find it more difficult to match. Once again this hypothesis finds backing in the IID data; the elasticity of daughter's parental income with respect to her partner's parental income is 0.018 lower for daughters who grew up in rural areas. This result is robust to controlling for parental province and for province interacted with partner's parental income.

We might also be interested in how mobility varies by region, particularly for Quebec, as marital patterns in this province differ from elsewhere. A feature of family formation in Quebec is extremely high rates of cohabitation and low rates of marriage in the province. Wu (2000, p. 47) shows that in 1996, almost 25% of unions in Quebec were cohabitations compared with around 10% in the rest of Canada. Results show that Quebec is fairly typical in the extent of assortative mating on parental income.

---

13. Of course, this result has other possible interpretations which lie outside a search framework. It could be that individuals from similar family backgrounds find more family support for their union and therefore, are encouraged to marry more often/earlier.



The results presented in Table 9 show that the extent of matching on parental income varies along some dimensions of daughters' and parents' characteristics. In terms of cohabitation, age at union and rural residence, these variations are consistent with a search framework of the marriage market where the extent of parental income matching provides a measure of assortative mating.

### *Divorce and assortative mating*

If the extent of parental income matching provides a measure of match quality we should expect that those couples who are more closely matched have more stable relationships and are less prone to divorce and separation. This final empirical section explores this question using partnership histories for daughters. As described in the data section, this enables us to have information on all partners who are also included in the IID since 1992 (and their parental incomes) and all marital partners who are within the IID. By using information about spousal SIN and marital status, we are able to observe if the daughter is still with each partner by 1998.

Table 10 provides descriptive statistics on partnership formation and dissolution for both samples. The upper panel of Table 10 presents the descriptive statistics for all marriages from 1986 onwards. Few marriages begin in the early years of the data and this rises steadily through the data, peaking in 1993 when 12.4% of marriages begin. It is clear that early marriage is an important determinant of whether a partnership lasts; annualized divorce and separation rates are higher for those who marry early.

In the lower panel, descriptive statistics are considered for the post-1992 sample. These reveal some difficulties of definition. The divorce rates indicate that partnerships formed more recently are much more likely to end in divorce or separation. Of partnerships formed in 1992, 4% of couples are divorced by 1998 and 12% are separated, this is 0.07% and 2% per year respectively. Of those formed in 1997, 8% are divorced by 1998 and 21% separated. While we might anticipate that cohabitations are short and frequently end in separation, it seems unlikely that the result for divorces is correct, particularly as it is not found for the sample of marriages. Our proposed explanation for this is that people who are actually cohabiting are reporting themselves as divorced in reference to an earlier relationship.<sup>14</sup> This problem means that the results for cohabiting couples should be treated with more caution than those for the sample of marriages.

The relationship between divorce, separation and parental income matching is explored in Tables 11 and 12. Table 11 considers all marriages. In the first column of Table 11, we control only for the ages of the daughter, her partner and both sets of parents. The results show that those partnerships which end in divorce had a substantially lower correlation between the parental incomes of the woman and her partner, the coefficient on the interaction is -0.056 (0.008) and there is also a negative relationship between separation and matching on parental income, at -0.017 (0.007) in the last column. In the remaining columns, we attempt to control for explanatory factors which may be related to both

---

14. An alternative way to consider the end of cohabitations would be to look at changes in the reported spousal SIN.

partnership dissolution and the extent of assortative mating. Adding controls for parents' province and the year in which the couple began cohabiting does reduce the interaction effects but they remain strong at -0.049 (.008) for divorce and -0.17 (0.007) for separation.

Table 12 considers the sample that began their partnerships post-1991, as before, and in addition, whether the couple are legally married or not. Once again, there is a strong negative interaction effect between divorce and parental income, while there is no difference between the extent of matching for couples who separate compared with other couples. As noted above, these results should be treated with caution, but the fact that they are similar to the more solid data for marriage is reassuring.

Evidence for Canada strongly suggests that couples who are more closely matched on parental income are less likely to divorce or separate. It is possible that this result is driven by particularly high divorce probabilities for couples from very different backgrounds. To explore this, we divide parental incomes into quintile groups for both partners and compute divorce probabilities by parental income pairs. We do this by comparing the probability of divorce for a couple if divorce was independent of the interaction of parental income and compare this with the actual divorce probability for couples with that combination of parental income quintiles. As shown in Appendix Tables A2 and A3, we find no clear pattern that the relationship between parental income matching and divorce is non-linear.

## 6. Conclusion

This paper has attempted to evaluate the contribution of assortative mating to intergenerational correlations in household earnings. Analyses which take account of the role of partners' income are rare in the intergenerational income mobility literature and we have been able to add results from Canada to build upon the recent analysis for the U.K. in Blanden (2005a) and the U.S. in Chadwick and Solon (2002). As in these studies, assortative mating is shown to add an important dimension. The relationships between partners' earnings and parental incomes are strong, and result in higher partial correlations between the couple's earnings and parental income than those found between individual earnings and parental income. The Canadian data confirm the evidence found in the other studies that this effect is more important for the intergenerational persistence of women, but it is also important for men, an aspect often overlooked.

Due to the unique data available for Canada, we are able to explore the level of matching on parental income within couples. This provides evidence on a new dimension through which parents and children are linked. We show that matching on parental income is substantial; indeed the correlation between parents-in-laws' incomes is very similar to the correlation found in income for parents and their offspring in Canada.

This finding is interesting in itself; however, owing to the correlation of parental income with many other characteristics of the two partners, we interpret the match on parental



income as a general purpose measure of assortative mating. Consequently, we test a number of hypotheses which would emerge from a search-theoretic framework. In all cases, the results justify the approach; the extent of assortative mating rises with the length of search (age at which the partnership is formed) and the thickness of the market (urban vs rural area) and weaker assortative mating is associated with a higher probability of the match dissolving.

This preliminary exploration of parental matching has opened up a number of avenues for future research. It is striking that evidence is found to confirm the intuitive predictions of a search interpretation of the marriage market. Ideally, we would want to be able to test if these variations in matching are found for other characteristics, such as education. At the moment, matching on parental income is an omnibus measure of matching, but it would also be interesting to try and understand the importance of matching on parental income conditional on other characteristics. Unfortunately, the limited nature of the data available prevents these extensions, and an interesting future route would be to consider these issues using Nordic register data that have many more variables matched in.<sup>15</sup>

---

15. Røed and Raaum (2003) provide an interesting discussion of the development and use of these data in Norway.

**Table 1 Number of daughters matched**

	Number	Proportion of the cohort
Women born 1967-1970	511,636	-
Women who file in 1998	483,908	0.945
Women cohabiting/married in 1998	294,251	0.575
Women matched with men from the IID, born 1963-1970, both file in 1998	179,341	0.351 (0.609 of those with partners in 1998)
Women matched with men from the IID, wives only file in 1998	2,452	0.005 (0.008 of those with partners in 1998)
Women matched with men from the IID, husbands only file in 1998	2,596	0.005
Women matched with men from the IID, born 1963-1970	184,389	0.360

Source: Intergenerational Income Data (IID).



**Table 2 Characteristics of the matched sample compared  
with all women in the IID**

	<b>All single women</b>	<b>All women with partners</b>	<b>Women matched with partners</b>
Married	-	0.815	0.843
>\$2 Earnings filed in 1998	0.861	0.821	0.819
1998 Earnings	23,510 (15,413)	22,111 (40,063)	22,545 (16,506)
>\$2 Market income filed in 1998	0.897	0.885	0.883
1998 Market income	23,836 (17,252)	21,994 (49,290)	22,444 (37,010)
>\$2 Total income filed in 1998	0.986	0.916	0.909
1998 Total Income	23,665 (16,393)	23,073 (46,808)	23,612 (33,169)
Average of parental earnings 14-18 years	51,049 (41,153)	49,752 (37,643)	50,543 (37,942)
Average of parental market income 14-18 years	56,711 (55,087)	54,693 (62,801)	55,791 (53,815)
Average of parental total income 14-18 years	56,095 (53,400)	54,912 (57,349)	56,183 (50,571)
<b>Parental province</b>			
Atlantic provinces	10.39	10.57	10.80
Quebec	21.76	25.65	24.53
Ontario	40.31	37.23	38.88
Prairies	16.05	17.11	17.07
British Columbia	11.24	9.24	8.57
Territories	0.24	0.21	0.15
Sample	171,590	269,940	171,588

Notes:

1. Income and earnings are all expressed in 1992 Canadian dollars, standard deviations are in parentheses.
2. Samples are restricted to those daughters for whom parents report incomes of >\$1 in all years used for the average. However, samples used in the calculation of each mean differ slightly, as only observations with valid measures for that variable are used (i.e. >\$1 for parents and >\$2 for daughters).
3. The high standard deviation for 1998 earnings among all women with partners is inflated by some large observations above the 90<sup>th</sup> percentile for this group. If observations above the 99<sup>th</sup> percentile are eliminated, the means and standard deviations for all women all the IID become 22,854 (13,743) and 21,361 (13,684) for earnings, 23,008 (14,170) and 20,982 (14,236) for market income and 22,928 (13,706) and 22,120 (14,107) for total income.
4. Earnings are total employment income.
5. Market income is employment income plus self-employment income plus asset income.
6. Total income is the sum of all the income sources listed on the tax return; the components included vary somewhat by year.

Source: Author's calculations based on Intergenerational Income Data (IID).

**Table 3 Characteristics of women in the SLID in 1998**

	<b>Women born 1967-1970</b>	
	<b>Single</b>	<b>With a partner</b>
Proportion of sample	0.353	0.647
Proportion married	...*	0.786
Worked during the year	0.854	0.821
Earnings	21,958 (15,414)	19,808 (14,240)
Market income	21,650 (15,635)	19,724 (14,272)
Atlantic provinces	0.079	0.074
Quebec	0.189	0.252
Ontario	0.449	0.363
Prairies	0.133	0.173
British Columbia	0.149	0.138
Partners aged 28-31	...*	0.639
Partners aged 28-36	...*	0.717
Sample size	637	1,524

Notes:

1. All figures are weighted to population means using the 1998 cross-sectional weight.
2. Once again earnings and income are in 1992 Canadian dollars.
3. Figures in parentheses are standard deviations.

\* ... = not applicable

Source: Survey of Labour and Income Dynamics (SLID).



**Table 4 Intergenerational mobility in Canada by gender  
and partnership status**

<b>1998 Earnings as dependent variable</b>			
Sample	Coefficient	Partial correlation	Sample
Single sons	0.188 (0.003)	0.137 (0.002)	203,688
Sons in couples	0.193 (0.003)	0.155 (0.002)	229,406
<b>1996-1998 Averaged earnings as dependent variable</b>			
	Coefficient	Partial correlation	Sample
Single sons	0.151 (0.002)	0.155 (0.002)	166,846
Sons in couples	0.160 (0.002)	0.185 (0.002)	208,999
<b>1998 Earnings as dependent variable</b>			
	Coefficient	Partial correlation	Sample
Single daughters	0.188 (0.004)	0.130 (0.003)	147,589
Daughters in couples	0.212 (0.004)	0.127 (0.002)	221,593
<b>1996-1998 Averaged earnings as dependent variable</b>			
	Coefficient	Partial Correlation	Sample
Single daughters	0.149 (0.003)	0.149 (0.003)	126,488
Daughters in couples	0.178 (0.002)	0.168 (0.002)	196,875

Notes:

1. Explanatory variable is parents' combined total income averaged over the years when the son or daughter was aged 14 to 18.
2. Only parental reports over \$1 and daughter/son-in-law reports over \$2 are included in the estimations.
3. Controls are included for age for both generations.
4. Standard errors are shown in parenthesis.

Source: Survey of Labour and Income Dynamics (SLID).

**Table 5 Intergenerational mobility and assortative mating**

<b>Women's parents' income as the explanatory variable</b>				
Dependent variable		Elasticity	Partial correlation	Sample
Women's 1998 earnings	$\beta_w$	0.207 (0.005)	0.124 (0.003)	131,337
Men's 1998 earnings	$\delta_w$	0.148 (0.003)	0.120 (0.003)	143,899
Couple's 1998 earnings	$\mu_w$	0.182 (0.003)	0.158 (0.003)	155,444
<b>Women's parents' income as the explanatory variable</b>				
		Elasticity	Partial correlation	Sample
Women's 1996-1998 earnings	$\beta_w$	0.174 (0.003)	0.163 (0.003)	98,983
Men's 1996-1998 earnings	$\delta_w$	0.130 (0.003)	0.150 (0.003)	112,901
Couple's 1996-1998 earnings	$\mu_w$	0.166 (0.002)	0.190 (0.003)	125,735
<b>Men's parents' income as the explanatory variable</b>				
		Elasticity	Partial correlation	Sample
Men's 1998 earnings	$\beta_h$	0.165 (0.003)	0.140 (0.003)	143,899
Women's 1998 earnings	$\delta_h$	0.147 (0.004)	0.093 (0.003)	131,337
Couple's 1998 earnings	$\mu_h$	0.177 (0.003)	0.163 (0.003)	155,444
<b>Men's parents' income as the explanatory variable</b>				
		Elasticity	Partial correlation	Sample
Men's 1996-1998 earnings	$\beta_h$	0.152 (0.002)	0.185 (0.003)	112,901
Women's 1996-1998 earnings	$\delta_h$	0.128 (0.003)	0.126 (0.003)	98,983
Couple's 1996-1998 earnings	$\mu_h$	0.162 (0.002)	0.195 (0.003)	125,735

Notes:

1. Explanatory variable is parents' combined total income averaged over the years when the son or daughter was aged 14 to 18.
2. Only parental reports over \$1 and daughter/son-in-law reports over \$2 are included in the estimations.
3. Controls are included for age for both generations.
4. Standard errors are shown in parenthesis.

Source: Intergenerational Income Data.



**Table 6 The education levels of couples in the SLID**

	Men	Women
High school drop out	0.158	0.112
High school	0.164	0.190
Further education	0.480	0.484
Completed degree	0.199	0.212
Sample	6,339	6,339

Notes:

1. The sample used here is of all couples (both married and cohabiting) where the wife is aged 25-40 at the time of the survey in 1998.
2. Cross-sectional weights are used to derive all proportions

Source: Survey of Labour and Income Dynamics (SLID).

**Table 7 Evidence for assortative mating on education from the SLID**

Man's education	Woman's education			
	Drop out	High school	Further education	Completed degree
Drop out	0.049 (0.018)	0.042 (0.030)	0.060 (0.077)	0.007 (0.033)
High school	0.019 (0.018)	0.051 (0.031)	0.085 (0.079)	0.009 (0.035)
Further education	0.041 (0.054)	0.083 (0.091)	0.274 (0.232)	0.083 (0.102)
Completed degree	0.003 (0.022)	0.014 (0.038)	0.067 (0.096)	0.115 (0.042)
Ratio of actual to predicted proportions				
Man's education	Woman's education			
	Drop out	High school	Further education	Completed degree
Drop out	2.722	1.366	0.789	0.212
High school	1.055	1.645	1.076	0.257
Further education	0.759	0.912	1.181	0.814
Completed degree	0.136	0.368	0.698	2.738

Notes:

1. The numbers in parentheses are the proportion of couples we would expect to observe in that cell if matching was random (predicted proportion).
2. As for Table 6.
3. Sample size is 6339 couples.

Source: Survey of Labour and Income Dynamics (SLID).

**Table 8 Measures of assortative mating on earnings and income**

<b>Regression of woman's 1998 income on partner's 1998 income</b>			
	Beta	Partial correlation	Sample size
Earnings	0.125 (0.004)	0.093 (0.003)	136,839
Market income	0.130 (0.004)	0.082 (0.003)	157,451
Total income	0.116 (0.004)	0.070 (0.002)	163,303
<b>Regression of woman's 1996-1998 income on partner's 1996-1998 income</b>			
	Beta	Partial Correlation	Sample Size
Earnings	0.196 (0.004)	0.160 (0.003)	98,524
Market income	0.193 (0.004)	0.138 (0.003)	116,879
Total income	0.180 (0.004)	0.122 (0.003)	124,405
<b>Regression of 5-year average of woman's parental income on partner's parental income</b>			
	Beta	Partial correlation	Sample size
Earnings	0.111 (0.002)	0.153 (0.003)	125,981
Market income	0.166 (0.002)	0.187 (0.003)	149,730
Total income	0.182 (0.002)	0.192 (0.002)	160,058

Notes:

1. The sample in the second panel is smaller than the sample in the first panel because not all of those who are together in 1998 were together in 1996 and 1997.
2. The income/earnings measure for all three years must be >2 for both spouses. However, these more stringent sample restrictions are not responsible for the higher correlations for the average measures.

Source: Intergenerational Income Data.

**Table 9 Variations in assortative mating by characteristics**

<b>Regressions on daughter's parental income on her husband's parental income</b>	
<b>Variation by marital status</b>	
Husband's parents' income	0.183 (0.003)
Husband's parents' income × Cohabiting	-0.028 (0.005)
<b>Variation by age relationship started</b>	
Husband's parents' income	0.123 (0.019)
Husband's parents' income × Age relationship started	0.002 (0.0008)
<b>Variation by growing up in a rural area</b>	
Husband's parents' income	0.142 (0.003)
Husband's parents' income × Rural	-0.018 (0.004)

Notes:

1. All regressions control for age effects and main effects alongside the interactions specified.
2. Controls for province are added to the regression by urban/rural. The results do not change if controls for the interaction of province and husband's parental income are also added (the rural interaction is reduced slightly to -0.017 (0.005)).

Source: Intergenerational Income Data.



**Table 10 Descriptive statistics for divorce and separation**

<b>All marriages started 1986 or later</b>			
<b>Year first observed</b>	<b>Proportion of sample</b>	<b>Proportion divorced by 1998</b>	<b>Proportion separated by 1998</b>
1986	0.007	0.293	0.245
1987	0.020	0.240	0.218
1988	0.043	0.207	0.191
1989	0.073	0.169	0.183
1990	0.102	0.134	0.162
1991	0.110	0.101	0.140
1992	0.118	0.067	0.113
1993	0.124	0.048	0.091
1994	0.119	0.030	0.083
1995	0.113	0.014	0.077
1996	0.095	0.006	0.066
1997	0.078	0.001	0.067
<b>All partnerships started in 1991 or later</b>			
<b>Year first observed</b>	<b>Proportion of sample</b>	<b>Proportion divorced by 1998</b>	<b>Proportion separated by 1998</b>
1992	0.184	0.039	0.121
1993	0.198	0.038	0.119
1994	0.173	0.039	0.138
1995	0.166	0.044	0.157
1996	0.151	0.057	0.183
1997	0.127	0.079	0.206

Notes:

1. Sample sizes are 130,919 for the first panel and 117,532 for the second panel.
2. The sample used here in the upper panel is of all marriages formed in 1986 or later. There are, therefore, some individuals with multiple partnerships; 96% of observations are for women with only one partnership included in the sample.
3. The sample used in the lower panel consists of all partnerships formed in 1991 or later. There are, therefore, some individuals with multiple partnerships; 95% of observations are for women with only one partnership included in the sample.

Source: Intergenerational Income Data.

**Table 11 Assortative mating and divorce for those ever married**

Dependent variable: Parental income			
Husband's parents' income	0.182 (0.003)	0.152 (0.003)	0.144 (0.003)
Husband's parents' income × divorced by 1998	-0.056 (0.008)	-0.049 (0.008)	-0.049 (0.008)
Husband's parents' income × separated by 1998	-0.025 (0.007)	-0.019 (0.007)	-0.017 (0.007)
Main effects of divorce and separation	Yes	Yes	Yes
All age controls	Yes	Yes	Yes
Parents' province dummies	No	Yes	Yes
Year married dummies	No	No	Yes
Sample size	130,919	130,919	130,919

Note:

Controlling for daughter's province rather than parents province gives results of 0.145 (0.003), -0.047 (0.008), -0.015 (0.0065).

Source: Intergenerational Income Data.

**Table 12 Assortative mating, divorce and separation, post-1991 partnerships**

Dependent variable: Parental income			
Husband's parents' income	0.174 (0.003)	0.148 (0.003)	0.145 (0.003)
Husband's parents' income × divorced by 1998	-0.064 (0.010)	-0.058 (0.010)	-0.056 (0.010)
Husband's parents' income × separated by 1998	-0.007 (0.006)	-0.002 (0.006)	-0.005 (0.006)
Main effects of divorce and separation	Yes	Yes	Yes
All age controls	Yes	Yes	Yes
Ever married dummy	Yes	Yes	Yes
Parents' province dummies	No	Yes	Yes
Year started cohabiting dummies	No	No	Yes
Sample size	117,532	117,532	117,532

Note:

Controlling for daughter's province rather than parents' province gives results of 0.145 (0.003) for husband's parents incomes, -0.054 (0.010) for the husband's parents x divorce interaction and 0.001 (0.006) for the husband's parents x separation interaction.

Source: Intergenerational Income Data.



## Appendix Further descriptive statistics

**Table A.1. Descriptive statistics for the couples sample**

	<b>Women matched with partners</b>	<b>Partners</b>
>\$2 Earnings filed in 1998	0.821	0.900
1998 Earnings	22,571 (16,479)	39,430 (35,900)
>\$2 Market income filed in 1998	0.884	0.968
1998 Market income	22,470 (38,978)	39,860 (41,802)
>\$2 Total income filed in 1998	0.910	0.978
1998 Total income	23,645 (33,940)	40,641 (40,290)
Average of parental earnings 14-18 years	50,612 (37,988)	49,811 (39,129)
Average of parental market income 14-18 years	55,880 (54,231)	55,039 (54,423)
Average of parental total income 14-18 years	56,281 (50,857)	56,389 (51,959)
Sample	160,058	160,058

**Notes:**

1. Income and earnings are all expressed in 1992 Canadian dollars, standard deviations are in parentheses.
2. The sample is restricted to all couples where the daughter and her partner's parental incomes are >\$1 in all years.

Source: Intergenerational Income Data.

**Table A.2 Divorce rates by parents' income quintiles**

Daughter's parental quintile	Sample divorce rate	Partner's parental quintile	Sample divorce rate
Bottom	0.046	Bottom	0.048
2 <sup>nd</sup>	0.049	2 <sup>nd</sup>	0.050
3 <sup>rd</sup>	0.049	3 <sup>rd</sup>	0.049
4 <sup>th</sup>	0.052	4 <sup>th</sup>	0.049
Top	0.044	Top	0.045

Source: Intergenerational Income Data.

**Table A.3 Threshold effects and divorce**

Divorce rates by parental quintiles					
Husband's parent's quintile	Wife's parents' quintile				
	Bottom	2nd	3rd	4th	Top
Bottom	0.043	0.046	0.043	0.054	0.060
2nd	0.044	0.051	0.050	0.059	0.044
3rd	0.052	0.047	0.049	0.046	0.051
4th	0.045	0.052	0.054	0.053	0.041
Top	0.052	0.048	0.047	0.047	0.037
Ratio of actual to predicted divorce rates					
Husband's parent's quintile	Wife's parents' quintile				
	Bottom	2nd	3rd	4th	Top
Bottom	0.904	0.962	0.907	1.164	1.216
2nd	0.906	1.037	1.000	1.161	0.902
3rd	1.076	0.981	0.981	0.910	1.117
4th	0.942	1.057	1.074	1.036	0.902
Top	1.160	1.020	1.019	0.981	0.816

**Notes:**

Cells show the ratio of the actual proportion of couples in the cell getting divorced compared with the prediction of this proportion if there were no interaction effect between the cells. i.e., if 6% of couples with the wife's parents in the bottom quintile obtain a divorce and 4% of couples with the husband's parents in the top quintile obtain a divorce, the prediction for a couple with this combination would be the average of those two, or 5%.

A ratio of >1 therefore means there is a higher probability of divorce than we would expect.

Source: Intergenerational Income Data.

## References

- Becker, G. 1973. "A Theory of Marriage: Part I." *The Journal of Political Economy*. 81, 4: 813–846.
- Becker, G. 1974. "A Theory of Marriage: Part II." *The Journal of Political Economy*. 82, 2, Part 2: S11–S26.
- Becker, G., E. Landes and R. Michael. 1977. "An Economic Analysis of Marital Instability." *The Journal of Political Economy*. 85, 6: 1141–1188.
- Becker, G. and N. Tomes. 1986. "Human Capital and the Rise and Fall of Families." *Journal of Labor Economics*. 4, 3, Part 2: S1–S39.
- Blackwell, D. and D. Lichter. 2000. "Mate Selection among Married and Cohabiting Couples." *Journal of Family Issues*. 21: 275–302.
- Blanden, J. 2005a. "Intergenerational Mobility and Assortative Mating in the UK." Chapter 6 of *Essays in Intergenerational Mobility and its Variation over Time, Place and Family Structure*. PhD Thesis. University of London.
- Blanden, J. 2005b. "International Comparisons of Intergenerational Mobility." Chapter 3 of *Essays in Intergenerational Mobility and its Variation over Time, Place and Family Structure*. PhD Thesis. University of London.
- Burdett, K. and M. Coles. 1997. "Marriage and Class." *The Quarterly Journal of Economics*. 112, 1: 141–168.
- Burdett, K. and M. Coles. 1999. "Long-term Partnership Formation: Marriage and Employment." *The Economic Journal*. 109, 456: F307–F334.
- Chadwick, L. and G. Solon. 2002. "Intergenerational Income Mobility Among Daughters." *American Economic Review*. 92, 1: 335–344.
- Chan, T. W. and B. Haplin. 2003. "Educational Homogamy in Ireland and Britain: Trends and Patterns." Sociology Working Paper, 2003-06, University of Oxford, Department of Sociology.
- Cook, K. and A. Demnati. 2000. "Weighting the Intergenerational Income Data File." Social Survey Methods Division. Mimeo. Ottawa: Statistics Canada.
- Corak, M. and A. Heisz. 1999. "The Intergenerational Earnings and Income Mobility of Canadian Men: Evidence from Longitudinal Tax Data." *The Journal of Human Resources*. 34, 3: 504–533.



Ermisch, J. and M. Francesconi. 2002. "Intergenerational Social Mobility and Assortative Mating in Britain." Institute for Social and Economic Research Working Paper. No. 2002-06. Colchester: University of Essex.

Ermisch, J., M. Francesconi and T. Siedler. 2004. "Intergenerational Social Mobility and Assortative Mating in Britain." Institute for Social and Economic Research (ISER) Mimeo and forthcoming in *Economic Journal*.

Fernandez, R., A. Fogli and C. Olivetti. 2004. "Mothers and Sons: Preference Formation and Female Labor Force Dynamics." *The Quarterly Journal of Economics*. 119,4: 1249-1299.

Glenn, N., A. Ross and J. Tully. 1974. "Patterns of Intergenerational Mobility of Females Through Marriage." *American Sociological Review*. 39, 5: 683-699.

Goode, W.J. 1982. *The Family*. Second Ed. Englewood Cliffs, NJ: Prentice Hall.

Grawe, N. 2003. *Lifecycle Bias in the Estimation of Intergenerational Income Mobility*. Analytical Studies Research Paper Series. Catalogue no. 11F0019MIE2003207. Ottawa: Statistics Canada.

Haider, S. and G. Solon. 2004. "Life-Cycle Variation in the Association between Current and Lifetime Earnings." Unpublished. University of Michigan.

Heckman, J. 1979. "Sample Selection Bias as a Specification Error." *Econometrica*. 47,1: 153-162.

Jepsen, L. and C. Jepsen. 2002. "An Empirical Analysis of the Matching Patterns of Same-Sex and Opposite-Sex Couples." *Demography*. 39, 3: 435-453.

Lam, D. 1988. "Marriage Markets and Assortative Mating with Household Public Goods: Theoretical Results and Empirical Implications." *The Journal of Human Resources*. 23, 4: 462-487.

Lam, D. and R. Schoeni. 1994. "Family Ties and Labor Markets in the United States and Brazil." *The Journal of Human Resources*. 29, 4: 1235-1258.

Magee, L., J. Burbidge and L. Robb. 2000. "The Correlation between Husband's and Wife's Education: Canada, 1971-1996." QSEP Research Report no. 353. McMaster University. Hamilton.

Mare, R. 1991. "Five Decades of Educational Assortative Mating." *American Sociological Review*. 56, 1: 15-32.

Mortensen, D. 1988 "Matching: Finding a Partner for Life or Otherwise." *The American Journal of Sociology*. 94, Supplement: S215-S240.

- Oreopoulos, P. 2003. "The Long-Run Consequences of Growing-Up in a Poor Neighborhood." *The Quarterly Journal of Economics*. 118, 4: 1533–1575.
- Røed, K. and O. Raaum. 2003. "Administrative Registers - Unexplored Reservoirs of Scientific Knowledge?" *Economic Journal*. 113, 488: F258–F281.
- Solon, G. 1992. "Intergenerational Income Mobility in the United States." *American Economic Review*. 82, 3: 393–408.
- Solon, G. 1999. "Intergenerational Mobility in the Labor Market." In *Handbook of Labor Economics*. Volume 3A. O. Ashenfelter and D. Card (eds.). North Holland. Chapter 29.
- Shimer, R. and L. Smith. 2000. "Assortative Matching and Search." *Econometrica*. 62, 2: 343–369.
- Weiss, Y. and R. Willis. 1997. "Match Quality, New Information, and Marital Dissolution." *Journal of Labor Economics*. 15, 1, Part 2: S293–S329.
- Wu, Z. 2000. *Cohabitation: An Alternative Form of Family Living*. Don Mills, Ontario: Oxford University Press.

## **ANALYTICAL STUDIES RESEARCH PAPER SERIES**

- No. 1 *Behavioural Response in the Context of Socio-Economic Microanalytic Simulation, Lars Osberg (April 1986)*
- No. 2 *Unemployment and Training, Garnett Picot (1987)*
- No. 3 *Homemaker Pensions and Lifetime Redistribution, Michael Wolfson (August 1987)*
- No. 4 *Modeling the Lifetime Employment Patterns of Canadians, Garnett Picot (Winter 1986)*
- No. 5 *Job Loss and Labour Market Adjustment in the Canadian Economy, Garnett Picot and Ted Wannell (1987)*
- No. 6 *A System of Health Statistics: Toward a New Conceptual Framework for Integrating Health Data, Michael C. Wolfson (March 1990)*
- No. 7 *A Prototype Micro-Macro Link for the Canadian Household Sector, Hans J. Adler and Michael C. Wolfson (August 1987)*
- No. 8 *Notes on Corporate Concentration and Canada's Income Tax, Michael C. Wolfson (October 1987)*
- No. 9 *The Expanding Middle: Some Canadian Evidence on the Deskilling Debate, John Myles (Fall 1987)*
- No. 10 *The Rise of the Conglomerate Economy, Jorge Niosi (1987)*
- No. 11 *Energy Analysis of Canadian External Trade: 1971 and 1976, K.E. Hamilton (1988)*
- No. 12 *Net and Gross Rates of Land Concentration, Ray D. Bollman and Philip Ehrensaft (1988)*
- No. 13 *Cause-Deleted Life Tables for Canada (1972 to 1981): An Approach Towards Analyzing Epidemiological Transition, Dhruva Nagnur and Michael Nagrodski (November 1987)*
- No. 14 *The Distribution of the Frequency of Occurrence of Nucleotide Subsequences, Based on Their Overlap Capability, Jane F. Gentleman and Ronald C. Mullin (1988)*
- No. 15 *Immigration and the Ethnolinguistic Character of Canada and Quebec, Réjean Lachapelle (1988)*
- No. 16 *Integration of Canadian Farm and Off-Farm Markets and the Off-Farm Work of Women, Men and Children, Ray D. Bollman and Pamela Smith (1988)*
- No. 17 *Wages and Jobs in the 1980s: Changing Youth Wages and the Declining Middle, J. Myles, G. Picot and T. Wannell (July 1988)*
- No. 18 *A Profile of Farmers with Computers, Ray D. Bollman (September 1988)*
- No. 19 *Mortality Risk Distributions: A Life Table Analysis, Geoff Rowe (July 1988)*
- No. 20 *Industrial Classification in the Canadian Census of Manufactures: Automated Verification Using Product Data, John S. Crysdale (January 1989)*
- No. 21 *Consumption, Income and Retirement, A.L. Robb and J.B. Burbridge (1989)*
- No. 22 *Job Turnover in Canada's Manufacturing Sector, John R. Baldwin and Paul K. Gorecki (Summer 1989)*
- No. 23 *Series on The Dynamics of the Competitive Process, John R. Baldwin and Paul K. Gorecki (1990)*



- A. *Firm Entry and Exit Within the Canadian Manufacturing Sector.*
- B. *Intra-Industry Mobility in the Canadian Manufacturing Sector.*
- C. *Measuring Entry and Exit in Canadian Manufacturing: Methodology.*
- D. *The Contribution of the Competitive Process to Productivity Growth: The Role of Firm and Plant Turnover.*
- E. *Mergers and the Competitive Process.*
- F. *n/a*
- G. *Concentration Statistics as Predictors of the Intensity of Competition.*
- H. *The Relationship Between Mobility and Concentration for the Canadian Manufacturing Sector.*

- No. 24 *Mainframe SAS Enhancements in Support of Exploratory Data Analysis, Richard Johnson, Jane F. Gentleman and Monica Tomiak (1989)*
- No. 25 *Dimensions of Labour Market Change in Canada: Intersectoral Shifts, Job and Worker Turnover, John R. Baldwin and Paul K. Gorecki (1989)*
- No. 26 *The Persistent Gap: Exploring the Earnings Differential Between Recent Male and Female Postsecondary Graduates, Ted Wannell (1989)*
- No. 27 *Estimating Agricultural Soil Erosion Losses From Census of Agriculture Crop Coverage Data, Douglas F. Trant (1989)*
- No. 28 *Good Jobs/Bad Jobs and the Declining Middle: 1967-1986, Garnett Picot, John Myles, Ted Wannell (1990)*
- No. 29 *Longitudinal Career Data for Selected Cohorts of Men and Women in the Public Service, 1978-1987, Garnett Picot and Ted Wannell (1990)*
- No. 30 *Earnings and Death-Effects Over a Quarter Century, Michael Wolfson, Geoff Rowe, Jane F. Gentleman and Monica Tomiak (1990)*
- No. 31 *Firm Response to Price Uncertainty: Tripartite Stabilization and the Western Canadian Cattle Industry, Theodore M. Horbulyk (1990)*
- No. 32 *Smoothing Procedures for Simulated Longitudinal Microdata, Jane F. Gentleman, Dale Robertson and Monica Tomiak (1990)*
- No. 33 *Patterns of Canadian Foreign Direct Investment Abroad, Paul K. Gorecki (1990)*
- No. 34 *POHEM - A New Approach to the Estimation of Health Status Adjusted Life Expectancy, Michael C. Wolfson (1991)*
- No. 35 *Canadian Jobs and Firm Size: Do Smaller Firms Pay Less?, René Morissette (1991)*
- No. 36 *Distinguishing Characteristics of Foreign High Technology Acquisitions in Canada's Manufacturing Sector, John R. Baldwin and Paul K. Gorecki (1991)*
- No. 37 *Industry Efficiency and Plant Turnover in the Canadian Manufacturing Sector, John R. Baldwin (1991)*
- No. 38 *When the Baby Boom Grows Old: Impacts on Canada's Public Sector, Brian B. Murphy and Michael C. Wolfson (1991)*
- No. 39 *Trends in the Distribution of Employment by Employer Size: Recent Canadian Evidence, Ted Wannell (1991)*
- No. 40 *Small Communities in Atlantic Canada: Their Industrial Structure and Labour Market Conditions in the Early 1980s, Garnett Picot and John Heath (1991)*
- No. 41 *The Distribution of Federal/Provincial Taxes and Transfers in Rural Canada, Brian B. Murphy (1991)*

- No. 42 *Foreign Multinational Enterprises and Merger Activity in Canada*, **John Baldwin and Richard Caves** (1992)
- No. 43 *Repeat Users of the Unemployment Insurance Program*, **Miles Corak** (1992)
- No. 44 *POHEM -- A Framework for Understanding and Modeling the Health of Human Populations*, **Michael C. Wolfson** (1992)
- No. 45 *A Review of Models of Population Health Expectancy: A Micro-Simulation Perspective*, **Michael C. Wolfson and Kenneth G. Manton** (1992)
- No. 46 *Career Earnings and Death: A Longitudinal Analysis of Older Canadian Men*, **Michael C. Wolfson, Geoff Rowe, Jane Gentleman and Monica Tomiak** (1992)
- No. 47 *Longitudinal Patterns in the Duration of Unemployment Insurance Claims in Canada*, **Miles Corak** (1992)
- No. 48 *The Dynamics of Firm Turnover and the Competitive Process*, **John Baldwin** (1992)
- No. 49 *Development of Longitudinal Panel Data from Business Registers: Canadian Experience*, **John Baldwin, Richard Dupuy and William Penner** (1992)
- No. 50 *The Calculation of Health-Adjusted Life Expectancy for a Canadian Province Using a Multi-Attribute Utility Function: A First Attempt*, **J.-M. Berthelot, R. Roberge and M.C. Wolfson** (1992)
- No. 51 *Testing the Robustness of Entry Barriers*, **J.R. Baldwin and M. Rafiquzzaman** (1993)
- No. 52 *Canada's Multinationals: Their Characteristics and Determinants*, **Paul K. Gorecki** (1992)
- No. 53 *The Persistence of Unemployment: How Important were Regional Extended Unemployment Insurance Benefits?*, **Miles Corak, Stephen Jones** (1993)
- No. 54 *Cyclical Variation in the Duration of Unemployment Spells*, **Miles Corak** (1992)
- No. 55 *Permanent Layoffs and Displaced Workers: Cyclical Sensitivity, Concentration, and Experience Following the Layoff*, **Garnett Picot and Wendy Pyper** (1993)
- No. 56 *The Duration of Unemployment During Boom and Bust*, **Miles Corak** (1993)
- No. 57 *Getting a New Job in 1989-90 in Canada*, **René Morissette** (1993)
- No. 58 *Linking Survey and Administrative Data to Study Determinants of Health*, **P. David, J.-M. Berthelot and C. Mustard** (1993)
- No. 59 *Extending Historical Comparability in Industrial Classification*, **John S. Crysdale** (1993)
- No. 60 *What is Happening to Earnings Inequality in Canada?*, **R. Morissette, J. Myles and G. Picot** (June 1994)
- No. 61 *Structural Change in the Canadian Manufacturing Sector, (1970-1990)*, **J. Baldwin and M. Rafiquzzaman** (July 1994)
- No. 62 *Unemployment Insurance, Work Disincentives, and the Canadian Labour Market: An Overview*, **Miles Corak** (January 1994)
- No. 63 *Recent Youth Labour Market Experiences in Canada*, **Gordon Betcherman and René Morissette** (July 1994)
- No. 64 *A Comparison of Job Creation and Job Destruction in Canada and the United States*, **John Baldwin, Timothy Dunne and John Haltiwanger** (July 1994)

- No. 65 *What is Happening to Weekly Hours Worked in Canada?*, **René Morissette and Deborah Sunter** (June 1994)
- No. 66 *Divergent Inequalities -- Theory, Empirical Results and Prescriptions*, **Michael C. Wolfson** (May 1995)
- No. 67 *XEcon: An Experimental / Evolutionary Model of Economic Growth*, **Michael C. Wolfson** (June 1995)
- No. 68 *The Gender Earnings Gap Among Recent Postsecondary Graduates, 1984-92*, **Ted Wannell and Nathalie Caron** (November 1994)
- No. 69 *A Look at Employment-Equity Groups Among Recent Postsecondary Graduates: Visible Minorities, Aboriginal Peoples and the Activity Limited*, **Ted Wannell and Nathalie Caron** (November 1994)
- No. 70 *Employment Generation by Small Producers in the Canadian Manufacturing Sector*, **John R. Baldwin and Garnett Picot** (November 1994)
- No. 71 *Have Small Firms Created a Disproportionate Share of New Jobs in Canada? A Reassessment of the Facts*, **Garnett Picot, John Baldwin and Richard Dupuy** (November 1994)
- No. 72 *Selection Versus Evolutionary Adaptation: Learning and Post-Entry Performance*, **J. Baldwin and M. Rafiquzzaman** (May 1995)
- No. 73 *Business Strategies in Innovative and Non-Innovative Firms in Canada*, **J. Baldwin and J. Johnson** (February 1995)
- No. 74 *Human Capital Development and Innovation: The Case of Training in Small and Medium Sized-Firms*, **J. Baldwin and J. Johnson** (March 1995)
- No. 75 *Technology Use and Industrial Transformation: Empirical Perspectives*, **John Baldwin, Brent Diverty and David Sabourin** (August 1995)
- No. 76 *Innovation: The Key to Success in Small Firms*, **John R. Baldwin** (February 1995)
- No. 77 *The Missing Link: Data on the Demand side of Labour Markets*, **Lars Osberg** (April 1995)
- No. 78 *Restructuring in the Canadian Manufacturing Sector from 1970 to 1990: Industry and Regional Dimensions of Job Turnover*, **J. Baldwin and M. Rafiquzzaman** (July 1995)
- No. 79 *Human Capital and the Use of Time*, **Frank Jones** (June 1995)
- No. 80 *Why Has Inequality in Weekly Earnings Increased in Canada?*, **René Morissette** (July 1995)
- No. 81 *Socio-Economic Statistics and Public Policy: A New Role For Microsimulation Modeling*, **Michael C. Wolfson** (July 1995)
- No. 82 *Social Transfers, Changing Family Structure, and Low Income Among Children*, **Garnett Picot and John Myles** (September 1995)
- No. 83 *Alternative Measures of the Average Duration of Unemployment*, **Miles Corak and Andrew Heisz** (October 1995)
- No. 84 *The Duration of Unemployment: A User Guide*, **Miles Corak and Andrew Heisz** (December 1995)
- No. 85 *Advanced Technology Use in Manufacturing Establishments*, **John R. Baldwin and Brent Diverty** (November 1995)
- No. 86 *Technology Use, Training and Plant-Specific Knowledge in Manufacturing Establishments*, **John R. Baldwin, Tara Gray and Joanne Johnson** (December 1995)



- No. 87 *Productivity Growth, Plant Turnover and Restructuring in the Canadian Manufacturing Sector*, **John R. Baldwin** (November 1995)
- No. 88 *Were Small Producers the Engines of Growth in the Canadian Manufacturing Sector in the 1980s?*, **John R. Baldwin** (October 1996)
- No. 89 *The Intergenerational Income Mobility of Canadian Men*, **Miles Corak and Andrew Heisz** (January 1996)
- No. 90 *The Evolution of Payroll Taxes in Canada: 1961 - 1993*, **Zhengxi Lin, Garnett Picot and Charles Beach** (February 1996)
- No. 91 *Project on Matching Census 1986 Database and Manitoba Health Care Files: Private Households Component*, **Christian Houle, Jean-Marie Berthelot, Pierre David, Cam Mustard, L. Roos and M.C. Wolfson** (March 1996)
- No. 92 *Technology-induced Wage Premia in Canadian Manufacturing Plants during the 1980s*, **John Baldwin, Tara Gray and Joanne Johnson** (December 1996)
- No. 93 *Job Creation by Company Size Class: Concentration and Persistence of Job Gains and Losses in Canadian Companies*, **Garnett Picot and Richard Dupuy** (April 1996)
- No. 94 *Longitudinal Aspects of Earnings Inequality in Canada*, **René Morissette and Charles Bérubé** (July 1996)
- No. 95 *Changes in Job Tenure and Job Stability in Canada*, **Andrew Heisz** (November 1996)
- No. 96 *Are Canadians More Likely to Lose Their Jobs in the 1990s?*, **Garnett Picot and Zhengxi Lin** (August 6, 1997)
- No. 97 *Unemployment in the Stock and Flow*, **Michael Baker, Miles Corak and Andrew Heisz** (September 1996)
- No. 98 *The Effect of Technology and Trade on Wage Differentials Between Nonproduction and Production Workers in Canadian Manufacturing*, **John R. Baldwin and Mohammed Rafiquzzaman** (May 1998)
- No. 99 *Use of POHEM to Estimate Direct Medical Costs of Current Practice and New Treatments Associated with Lung Cancer in Canada*, **C. Houle, B.P. Will, J.-M. Berthelot, Dr. W.K. Evans** (May 1997)
- No.100 *An Experimental Canadian Survey That Links Workplace Practices and Employee Outcomes: Why it is Needed and How it Works*, **Garnett Picot, Ted Wannell** (May 1997)
- No.101 *Innovative Activity in Canadian Food Processing Establishments: The Importance of Engineering Practices*, **John Baldwin and David Sabourin** (November 1999)
- No.102 *Differences in Strategies and Performances of Different Types of Innovators*, **John R. Baldwin and Joanne Johnson** (December 1997)
- No.103 *Permanent Layoffs in Canada: Overview and Longitudinal Analysis*, **Garnett Picot, Zhengxi Lin and Wendy Pyper** (September, 1997)
- No.104 *Working More? Working Less? What do Canadian Workers Prefer?*, **Marie Drolet and René Morissette** (May 20, 1997)
- No.105 *Growth of Advanced Technology Use in Canadian Manufacturing During the 1990's*, by **John Baldwin, Ed Rama and David Sabourin** (December 14, 1999)
- No.106 *Job Turnover and Labour Market Adjustment in Ontario from 1978 to 1993*, by **Zhengxi Lin and Wendy Pyper** (1997)
- No.107 *The Importance of Research and Development for Innovation in Small and Large Canadian Manufacturing Firms*, **John R. Baldwin** (September 24, 1997)

- No.108 *International Competition and Industrial Performance: Allocative Efficiency, Productive Efficiency, and Turbulence*, **John R. Baldwin and Richard E. Caves** (October 1997)
- No.109 *The Dimensions of Wage Inequality among Aboriginal Peoples*, **Rachel Bernier** (December 1997)
- No.110 *Trickling Down or Fizzling Out? Economic Performance, Transfers, Inequality and Low Income*, **Myles Zyblock and Zhengxi Lin** (December 10, 1997)
- No.111 *Corporate Financial Leverage: A Canada - U.S. Comparison, 1961-1996*, **Myles Zyblock** (December 1997)
- No.112 *An explanation of the Increasing Age Premium*, **Constantine Kapsalis** (July 1998)
- No.113 *The Intergenerational Earnings and Income Mobility of Canadian Men: Evidence from Longitudinal Income Tax Data*, **Miles Corak and Andrew Heisz** (October, 1998)
- No.114 *Foreign-Born vs Native-Born Canadians: A Comparison of Their Inter-Provincial Labour Mobility*, **Zhengxi Lin** (September 1998)
- No.115 *Living Arrangements and Residential Overcrowding: the situation of older immigrants in Canada, 1991*, **K.G. Basavarajappa** (September 1998)
- No.116 *What is Happening to Earnings Inequality and Youth Wages in the 1990s?*, **Garnett Picot** (July 1998)
- No.117 *The Determinants of the Adoption Lag for Advanced Manufacturing Technologies*, **John R. Baldwin and Mohammed Rafiquzzaman** (August 1998)
- No.118 *Labour Productivity Differences Between Domestic and Foreign-Controlled Establishments in the Canadian Manufacturing Sector*, **John R. Baldwin and Naginder Dhaliwal** (March 1, 2000)
- No.119 *Technology Adoption: A Comparison Between Canada and the United States*, **John R. Baldwin and David Sabourin** (August 1998)
- No.120 *Are There High-Tech Industries or Only High-Tech Firms? Evidence From New Technology-Based firms*, **John R. Baldwin and Guy Gellatly** (December 1998)
- No.121 *A Portrait of Entrants and Exits*, **John R. Baldwin** (June 1999)
- No.122 *Determinants of Innovative Activity in Canadian Manufacturing Firms: The Role of Intellectual Property Right*, **John R. Baldwin, Petr Hanel and David Sabourin** (March 7, 2000)
- No.123 *Innovation and Training in New Firms* **John R. Baldwin** (November 2000)
- No.124 *New Views on Inequality Trends in Canada and the United States*, **Michael C. Wolfson and Brian B. Murphy** (August 1998 and October 1999 (paper))
- No.125 *Employment Insurance in Canada: Recent Trends and Policy Changes*, **Zhengxi Lin** (September 1998)
- No.126 *Computers, Fax Machines and Wages in Canada: What Really Matters?*, **René Morissette and Marie Drolet** (October 1998)
- No.127 *Understanding the Innovation Process: Innovation in Dynamic Service Industries*, **Guy Gellatly and Valerie Peters** (December 1999)
- No.128 *Recent Canadian Evidence on Job Quality by Firm Size*, **Marie Drolet and René Morissette** (November 1998)

- No.129 *Distribution, Inequality and Concentration of Income Among Older Immigrants in Canada, 1990*, **K.G Basavarajappa (April 1999)**
- No.130 *Earnings Dynamics and Inequality among Canadian Men, 1976-1992: Evidence from Longitudinal Income Tax Records*, **Michael Baker and Gary Solon (February 1999)**
- No.131 *The Returns to Education, and the Increasing Wage Gap Between Younger and Older Workers*, **C. Kapsalis, R. Morissette and G. Picot (March 1999)**
- No.132 *Why Do Children Move Into and Out of Low Income: Changing Labour Market Conditions or Marriage and Divorce?*, **G. Picot, M. Zybblock and W. Pyper (March 1999)**
- No.133 *Rising Self-Employment in the Midst of High Unemployment: An Empirical Analysis of Recent Developments in Canada*, **Zhengxi Lin, Janice Yates and Garnett Picot (March 1999)**
- No.134 *The Entry and Exit Dynamics of Self-Employment in Canada*, **Zhengxi Lin, Garnett Picot and Janice Yates (March 1999)**
- No.135 *Death and Divorce: The Long-term Consequences of Parental Loss on Adolescents*, **Miles Corak (June 9, 1999)**
- No.136 **Cancelled**
- No.137 *Innovation, Training and Success*, **John Baldwin (October 1999)**
- No.138 *The Evolution of Pension Coverage of Young and Older Workers in Canada*, **René Morissette and Marie Drolet (December 1999)**
- No.139 *Import Competition and Market Power: Canadian Evidence*, **Aileen J. Thompson (April 2000)**
- No.140 *Gender Composition and Wages: Why is Canada Different from the United States*, **Michael Baker and Nicole Fortin (August 2000)**
- No.141 *The Transition to Work for Canadian University Graduates: Time to First Job, 1982-1990*, **Julian Betts, Christopher Ferrall and Ross Finnie (December 2000)**
- No.142 *Who Moves? A Panel Logit Model Analysis of Interprovincial Migration in Canada*, **Ross Finnie (August 2000)**
- No.143 *Differences in Innovator and Non-Innovator Profiles: Small Establishments in Business Services*, **Guy Gellatly (December 1999)**
- No.144 *Social Transfers, Earnings and Low-Income Intensity Among Canadian Children, 1981-1996: Highlighting Recent Development in Low-Income Measurement*, **John Myles and Garnett Picot (March 2000)**
- No.145 *How Much of Canada's Unemployment is Structural?*, **Lars Osberg and Zhengxi Lin (October 2000)**
- No.146 *To What Extent Are Canadians Exposed to Low-Income?*, **René Morissette and Marie Drolet (April, 2000)**
- No.147 *The Maturation of Canada's Retirement Income System: Income Levels, Income Inequality and Low-Income among the Elderly*, **John Myles (March 6, 2000)**
- No.148 *The Performance of the 1990s Canadian Labour Market*, **Garnett Picot and Andrew Heisz (April, 2000)**
- No.149 *Payroll Taxes in Canada Revisited: Structure, Statutory Parameters, and Recent Trends* **Zhengxi Lin (August, 2001)**



- No.150 *Patterns of Corporate Diversification in Canada: An Empirical Analysis*, **John R. Baldwin, Desmond Beckstead, Guy Gellatly and Alice Peters (June, 2000)**
- No.151 *Multinationals and the Canadian Innovation Process*, **John R. Baldwin and Petr Hanel (June, 2000)**
- No.152 *Rural Youth: Stayers, Leavers and Return Migrants*, **Richard Dupuy, Francine Mayer and René Morissette (September 5, 2000)**
- No.153 *Female Employment Rates and Labour Market Attachment in Rural Canada*, **Euan Phimster, Esperanza Vera Toscano, Alfons Weersink (December 2000)**
- No.154 *Training as a Human Resource Strategy: The Response to Staff Shortages and Technological Change*, **John R. Baldwin and Valerie Peters (April 2001)**
- No.155 *Job Tenure, Worker Mobility and the Youth Labour Market during the 1990s*, **G. Picot, A. Heisz and A. Nakamura (March 2001)**
- No.156 *The Impact of International Trade on the Wages of Canadians*, **Omar Zakhilwal (December 2000)**
- No.157 *The Persistent Gap: New Evidence on the Canadian Gender Wage Gap*, **Marie Drolet (December 2000)**
- No.158 *In Search of Intergenerational Credit Constraints Among Canadian Men: Quantile Versus Mean Regression Tests for Binding Credit Constraints*, **Nathan D. Grawe (December 2000)**
- No.159 *Intergenerational Influences on the Receipt of Unemployment Insurance in Canada and Sweden*, **Miles Corak, Bjorn Gustaffson and Torun Osterberg (December 2000)**
- No.160 *Neighbourhood Inequality in Canadian Cities*, **John Myles, Garnett Picot and Wendy Pyper (December 13, 2000)**
- No.161 **Cancelled**
- No.162 *The Evolution of Job Stability in Canada: Trends and Comparisons to U.S. Results*, **Andrew Heisz (October 16, 2002)**
- No.163 *The Effects of Inter-Provincial Mobility on Individuals' Earnings: Panel Model Estimates for Canada*, **Ross Finnie (October, 2001)**
- No.164 *Early Labour Market Outcomes of Recent Canadian University Graduates by Discipline: A Longitudinal, Cross-Cohort Analysis*, **Ross Finnie (March 2002)**
- No.165 *Innovation and Connectivity: The Nature of Market Linkages and Innovation Networks in Canadian Manufacturing Industries*, **John Baldwin and Alice Peters (May 2001)**
- No.166 *An Assessment of EI and SA Reporting in SLID*, **Constantine Kapsalis (August, 2001)**
- No.167 **Cancelled**
- No.168 *Enhancing Food Safety and Productivity: Technology Use in the Canadian Food Processing Industry*, **John R. Baldwin and David Sabourin (May 2002)**
- No.169 *Dynamics of the Canadian Manufacturing Sector in Metropolitan and Rural Regions*, **John R. Baldwin and Mark Brown with Tara Vinodrai (November 2001)**
- No.170 *Income Prospects of British Columbia University Graduates*, **Andrew Heisz (May 2001)**
- No.171 *Are the Kids All Right? Intergenerational Mobility and Child Well-being in Canada*, **Miles Corak (October 2001)**

- No.172 *Low-Income Intensity During the 1990s: The Role of Economic Growth, Employment Earnings and Social Transfers*, **G. Picot, R. Morissette, J. Myles** (January 24, 2003)
- No.173 *Impediments to Advanced Technology Adoption for Canadian Manufacturers*, **John Baldwin and Zhengxi Lin** (August, 2001)
- No.174 *Impact of the Adoption of Advanced Information and Communication Technologies on Firm Performance in the Canadian Manufacturing Sector*, **John R. Baldwin and David Sabourin** (October, 2001)
- No.175 *Skill Shortages and Advanced Technology Adoption*, **David Sabourin** (September, 2001)
- No.176 *Which Firms Have High Job Vacancy Rates in Canada?*, **René Morissette, Xuelin Zhang** (October 25, 2001)
- No.177 *A Tale of Three Cities: The Dynamics of Manufacturing in Toronto, Montreal and Vancouver, 1976-1997*, **Tara Vinodrai** (November 2001)
- No.178 *School Performance of the Children of Immigrants in Canada, 1994-98*, **Christopher Worswick** (November 14, 2001)
- No.179 *Changes in the Diversification of Canadian Manufacturing Firms (1973-1997): A Move to Specialization*, **John R. Baldwin, Desmond Beckstead and Richard Caves** (February 2002)
- No.180 *Differences in Interprovincial Productivity Levels*, **John R. Baldwin, Jean-Pierre Maynard, David Sabourin and Danielle Zietsma** (December 2001)
- No.181 *Does Parent or Child Know Best? An Assessment of Parent/Child Agreement in the Canadian National Longitudinal Survey of Children and Youth*, **Lori Curtis, Martin Dooley and Shelley Phipps** (October 23, 2002)
- No.182 *Effects of Selection Criteria and Economic Opportunities on the Characteristics of Immigrants*, by **Abdurrahman Aydemir** (October 23, 2002)
- No.183 *Setting up Shop: Self-Employment Amongst Canadian College and University Graduates*, **Ross Finnie, Christine Laporte, Maud-Catherine Rivard** (March 2002)
- No.184 *Winners and Losers in the Labour Market of the 1990s*, **Andrew Heisz, Andrew Jackson, Garnett Picot** (February 2002)
- No.185 *Do Neighbourhoods Influence Long Term Labour Market Success? A Comparison of Adults who Grew Up in Different Public Housing Projects*, **Philip Oreopoulos** (June 2002)
- No.186 *Wives, Mothers and Wages: Does Timing Matter?* **Marie Drolet** (May 1, 2002)
- No.187 *The Evolution of Wealth Inequality in Canada, 1984-1999*, **René Morissette, Xuelin Zhang and Marie Drolet** (February 2002)
- No.188 *Management Experience and Diversity in an Aging Organization*, **Ted Wannell and Martin Gravel** (August 2002)
- No.189 *The Importance of Entry to Canadian Manufacturing with an Appendix on Measurement Issues*, **John Baldwin, Desmond Beckstead and Andrée Girard** (May 2002)
- No.190 *Financing Innovation in New Small Firms : Evidence From Canada*, **John R., Baldwin, Guy Gellatly and Valérie Gaudreault** (May 2002)
- No.191 *Too Far to Go On? Distance to School and University Participation*, **Marc Frenette** (June 24, 2002)

- No.192 *Life After Welfare: The Economic Well-Being of Welfare Leavers in Canada during the 1990s*, **Marc Frenette, Garnet Picot** (March 26, 2003)
- No.193 *Plant Turnover and Productivity Growth in Canadian Manufacturing*, **John Baldwin, Wulong Gu** (April 2, 2003)
- No.194 *Wage Progression of Less Skilled Workers in Canada: Evidence from the SLID (1993-1998)*, **Xuelin Zhang** (December 6, 2002)
- No.195 *Do the Falling Earnings of Immigrants Apply to Self-Employed Immigrants?*, **Marc Frenette** (December 2002)
- No.196 *Minorities, Cognitive Skills and the Incomes of Canadians*, **Ross Finnie and Ronald Meng** (January 24, 2003)
- No.197 *The Wealth Position of Immigrant Families in Canada*, **Xuelin Zhang** (November 18, 2003)
- No.198 *The Rise in Low-Income Rates Among Immigrants in Canada*, **Garnett Picot and Feng Hou** (June 19, 2003)
- No.199 *Alternative Work Practices and Quit Rates: Methodological Issues and Empirical Evidence For Canada*, **René Morissette and Julio Miguel Rosa** (March 17, 2003)
- No.200 *Cohort Effects in Annual Earnings by Field of Study Among British Columbia University Graduates*, **Andrew Heisz** (September 26, 2003)
- No.201 *Access to College and University: Does Distance Matter?*, **Marc Frenette** (June 2003)
- No.202 *Learning From Failure: Organizational Mortality and the Resource-Based View*, **S. Thornhill and R. Amit** (August 8, 2003)
- No.203 *Effects of Business Cycles on the Labour Market Assimilation of Immigrants*, **Abdurrahman Aydemir** (July 31, 2003)
- No.204 *Visible Minority Neighbourhood Enclaves and Labour Market Outcomes of Immigrants*, **Garnett Picot, Feng Hou** (July 9, 2003)
- No.205 *Changing Trade Barriers and Canadian Firms: Survival and Exit After the Canada-U.S. Free Trade Agreement*, **Jen Baggs** (April 28, 2004)
- No.206 *Neighbourhood Attainment and Residential Segregation Among Toronto's Visible Minorities*, **John Myles and Feng Hou** (July 30, 2003)
- No.207 *Life cycle bias in the estimation of intergenerational earnings persistence*, **Nathan Grawe** (August 5, 2003)
- No.208 *Are Investment Expectations Rational?* by **Chetan Dave** (December 17, 2004)
- No.209 *Working Hours in Canada and the United States*, by **Andrew Heisz and Sébastien LaRochelle-Côté** (September 2003)
- No.210 *Family Income and Participation in Post-Secondary Education*, **Miles Corak, Garth Lipps and John Zhao** (October 1, 2003)
- No.211-214 forthcoming
- No.215 *Will They Ever Converge?: Earnings of Immigrant and Canadian-Born Workers over the Last Two Decades*, **Marc Frenette and René Morissette** (October 8, 2003)



- No.216 *How long do people live in low-income neighbourhoods?* **Marc Frenette Garnett Picot and Roger Sceviour** (January 2004)
- No.217 *Corporate Financial Leverage in Canadian Manufacturing: Consequences for Employment and Inventories,* **Andrew Heisz and Sébastien LaRochelle-Côté** (February 2004)
- No.218 *Have Permanent Layoff Rates Increased in Canada?* **René Morissette** (March 25, 2004)
- No.219 *Rising income inequality amid the economic recovery of the 1990s: An exploration of three data sources,* **Marc Frenette, David Green and Garnett Picot** (July 9, 2004)
- No.219 *REVISED: Rising Income Inequality in the 1990s: An Exploration of Three Data Sources* **Marc Frenette, David Green and Garnett Picot** (December 16, 2004)
- No.220 *Factors Determining the Success or Failure of Canadian Establishments on Foreign Markets: A Survival Analysis Approach,* **Jean Bosco Sabuhoro and Yvan Gervais** (May 5, 2004)
- No.221 *Recent immigration and the formation of visible minority neighbourhoods in Canada's large cities,* **Feng Hou** (July 2, 2004)
- No.222 *The Deteriorating Economic Welfare of Immigrants and Possible Causes,* **Garnett Picot** (July 15, 2004)
- No.223 *The Retirement Plans and Expectations of Non-Retired Canadians Aged 45-59,* **Grant Schellenberg** (June 29, 2004)
- No.224 *Public Transit Use Among Immigrants,* **Andrew Heisz, Grant Schellenberg** (May 13, 2004)
- No.225 *Explaining the Deteriorating Entry Earnings of Canada's Immigrant Cohorts: 1966-2000, by* **Abdurrahman Aydemir and Mikal Skuterud** (May 17, 2004)
- No.226 *Family Background and Access to Post Secondary Education: What Happened over the 1990s? ,* **Ross Finnie, Christine Laporte and Eric Lascelles** (August 18, 2004)
- No.227 *A Longitudinal Analysis of Earnings Change in Canada ,* **Charles M. Beach and Ross Finnie** (August 20, 2004)
- No.228 *Neighbourhood Inequality, Relative Deprivation and Self-perceived Health Status,* **Feng Hou and John Myles** (September 27, 2004)
- No.229 *Population Movement Into and Out of Canada's Immigrant Gateway Cities: A Comparative Study of Toronto, Montreal and Vancouver,* **Feng Hou and Larry S. Bourne** (September 13, 2004)
- No.230 *Earnings of Couples with High and Low Levels of Education, 1980-2000,* **René Morissette et Anick Johnson** (October 13, 2004)
- No.231 *Welfare Dynamics in Canada: The Role of Individual Attributes and Economic-Policy Variables,* **Ross Finnie, Ian Irvine and Roger Sceviour** (October 2004)
- No.232 *Relative Wage Patterns among the Highly Educated in a Knowledge-based Economy,* **René Morissette, Yuri Ostrovsky and Garnett Picot** (September 29, 2004)
- No.233 *Postsecondary Field of Study and the Canadian Labour Market Outcomes of Immigrants and Non-Immigrants,* **Arthur Sweetman and Stephan McBride** (October 28, 2004)
- No.234 *Immigrant Source Country Educational Quality and Canadian Labour Market Outcomes,* **Arthur Sweetman** (December 15, 2004).

- No.235 *The Evolution of the Gender Earnings Gap Amongst Canadian University Graduates*, **Ross Finnie and Ted Wannell** (November 30, 2004)
- No.236 *forthcoming*
- No.237 *Who Goes? The Direct and Indirect Effects of Family Background on Access to Post-secondary Education*, **Ross Finnie, Eric Lascelles and Arthur Sweetman** (January 18, 2005)
- No.238 *The Decline of the Immigrant Homeownership Advantage: Life-Cycle, Declining Fortunes and Changing Housing Careers in Montreal, Toronto and Vancouver, 1981-2001* by **Michael Haan** (February 3, 2005)
- No.239 *Are Good Jobs Disappearing in Canada?* by **René Morissette and Anick Johnson** (January 26, 2005)
- No.240 *Income Inequality and Low Income in Canada: An International Perspective*, by **Garnett Picot and John Myles** (February 10, 2005)
- No.241 *Ethnic Neighbourhoods and Male Immigrant Earnings Growth: 1981 through 1996*, by **Casey Warman** (February 25, 2005)
- No.242 *Making the Transition: The Impact of Moving from Elementary to Secondary School on Adolescents' Academic Achievement and Psychological Adjustment*, by **Garth Lipps** (March 1, 2005)
- No.243 *Participation in Post-secondary Education in Canada: Has the Role of Parental Income and Education Changed over the 1990's?* by **Marie Drolet** (February 15, 2005)
- No.244 *Is Post-secondary Access More Equitable in Canada or the United States?*, by **Marc Frenette** (March 15, 2005)
- No. 245 *Social Assistance Use in Canada: National and Provincial Trends in Incidence, Entry and Exit*, by **Ross Finnie, Ian Irvine, and Roger Sceviour** (May 30, 2005)
- No. 246 **Summary of:** *Social Assistance Use in Canada: National and Provincial Trends in Incidence, Entry and Exit*, by **Ross Finnie, Ian Irvine, and Roger Sceviour** (May 30, 2005) – Internet Only
- No. 247 *Intergenerational Impact of Immigrants' Selection and Assimilation on Health Outcomes of Children*, by **Nina Ahmed** (April 15, 2005)
- No. 248 *Low-paid Work and Economically Vulnerable Families over the Last Two Decades*, by **René Morissette and Garnett Picot** (April 25, 2005)
- No. 249 **Summary of:** *Low-paid Work and Economically Vulnerable Families over the Last Two Decades*, by **René Morissette and Garnett Picot** (April 25, 2005) – Internet only
- No. 250 *Explaining the Increase in On-the-Job Search*, by **Mikal Skuterud** (April 29, 2005)
- No. 251 *Canadian Compulsory School Laws and their Impact on Educational Attainment and Future Earnings*, by **Philip Oreopoulos** (May 19, 2005)
- No. 252 *Are Immigrants Buying to Get In?: The Role of Ethnic Clustering on the Homeownership Propensities of 12 Toronto Immigrant Groups, 1996-2001* by **Michael Haan** (May 26, 2005)
- No. 253 **Summary of:** *Are Immigrants Buying to Get In?: The Role of Ethnic Clustering on the Homeownership Propensities of 12 Toronto Immigrant Groups, 1996-2001* by **Michael Haan** (May 26, 2005) – Internet only
- No. 254 *The Initial Destinations and Redistribution of Canada's Major Immigrant Groups: Changes over the Past Two Decades*, by **Feng Hou** (June 29, 2005)



- No. 255 **Summary of: The Initial Destinations and Redistribution of Canada's Major Immigrant Groups: Changes over the Past Two Decades, by Feng Hou (June 29, 2005) – Internet only**
- No. 256 **Trade Liberalization, Profitability, and Financial Leverage by Jen Baggs and James A. Brander (June 22, 2005)**
- No. 257 **Summary of: Trade Liberalization, Profitability, and Financial Leverage by Jen Baggs and James A. Brander (June 22, 2005)– Internet only**
- No. 258 **Tariff Reduction and Employment in Canadian Manufacturing, 1988-1994, by Sébastien LaRochelle-Côté (June 22, 2005)**
- No. 259 **Summary of: Tariff Reduction and Employment in Canadian Manufacturing, 1988-1994, by Sébastien LaRochelle-Côté (June 22, 2005)– Internet only**
- No. 260 **Firms, Industries, and Unemployment Insurance: An Analysis Using Employer-Employee Data from Canada, by Miles Corak and Wen-Hao Chen (June 30, 2005)**
- No. 261 **All In the Family: A Simultaneous Model of Parenting Style and Child Conduct, by Peter Burton, Shelley Phipps and Lori Curtis (August 2, 2005)**
- No. 262 **The Deteriorating Economic Welfare of Immigrants and Possible Causes: Update 2005, by Garnett Picot and Arthur Sweetman (June 27, 2005) – A revised version of Study No. 222, dated July 2004**
- No. 263 **The Impact of Tuition Fees on University Access: Evidence from a Large-scale Price Deregulation in Professional Programs, by Marc Frenette (September 27, 2005)**
- No. 264 **Summary of: The Impact of Tuition Fees on University Access: Evidence from a Large-scale Price Deregulation in Professional Programs, by Marc Frenette (September 27, 2005) – Internet only**
- No. 265 **The Instability of Family Earnings and Family Income in Canada, 1986 to 1991 and 1996 to 2001, by René Morissette and Yuri Ostrovsky (November 2, 2005)**
- No. 266 **Summary of: The Instability of Family Earnings and Family Income in Canada, 1986 to 1991 and 1996 to 2001, by René Morissette and Yuri Ostrovsky (November 2, 2005) – Internet only**
- No. 267 **Intergenerational Earnings Mobility Among the Children of Canadian Immigrants, by Abdurrahman Aydemir, Wen-Hao Chen and Miles Corak (October 25, 2005)**
- No. 268 **Forthcoming**
- No. 269 **Forthcoming**
- No. 270 **Differences in the Distribution of High School Achievement: The Role of Class Size and Time-in-term, by Miles Corak and Darren Lauzon (November 22, 2005)**
- No. 271 **Mandatory Retirement Rules and Retirement Decisions of University Professors in Canada, by Christopher Worswick (December 5, 2005)**
- No. 272 **Love and Money: Intergenerational Mobility and Marital Matching on Parental Income, by Jo Blanden (December 8, 2005)**







